The Inclusion of Autistic Pupils in the Primary Schoolyard

HIBERNIA COLLEGE

ICEP europe
Institute of Child Education and Psychology

Hibernia College and ICEP Europe

Masters in Inclusive and Special Education (MAISE)

The Inclusion of Autistic Pupils in the Primary Schoolyard.

Student: Miriam Cotter

Abstract

The rising prevalence of autism in the primary school community, coupled with the establishment of an ever-increasing number of autism special classes means that there is a significant cohort of autistic pupils who have the right to be genuinely included to achieve their full potential, as outlined by the Convention on the Rights of the Child (UNCRC, 1989). Article 23 specifically refers to children with disabilities having additional rights to special education and care. The social model of inclusion advocates that society, and the environment should be adapted to meet the needs of autistic people because diversity should be considered the norm not the exception (Fletcher-Watson et al. 2019). Limited qualitative research around the use of evidenced- based inclusive school practices has not been conducted in school settings but in research centers and clinics (Dervan, Egan and Ring, 2024). Similarly, there is a gap in the qualitative research around the inclusion of autistic pupils in the mainstream primary school yard. The school yard should be a bridge and not a barrier to play and recreation time, because the yard is an important space for autistic pupils to self-regulate, de-stress and acquire social and communication competencies (Guirguis, 2018). Adopting a neuroaffirmative approach is essential to ensure genuine inclusion because it promotes wellbeing, happiness and a sense of belonging (Middletown Centre for Autism, 2024).

A participatory action research project using a mixed methodology study was carried out in a DEIS band 1 urban primary school using semi-structured interviews (qualitative research), the results of which were triangulated with results from a questionnaire incorporating both closed and open-ended questions (quantitative and qualitative research). The findings identified five themes and highlighted strategies and adaptations which could be used to encourage and promote genuine inclusion in primary school yards. Themes included the need for a quiet/ sensory area and access to nature at a minimal cost. Social communication competencies could be taught to all pupils, with autistic pupils receiving additional support. Autistic pupils could benefit from organised support in the yard from staff and from neuro-typical peers. Autism awareness training could be made available for all pupils, and staff could acquire continuous professional development. A genuine mainstream yard integration plan for pupils coming from the autistic special classes needed to be developed. These themes broadly reflect some of the findings of the Autism Innovation Strategy (2024) issued by the Department of Children, Equality, Disability, Integration and Youth which advocates for an autism-affirming society, equality of access to public services, the need to build capacity and the promotion of communities which are accessible and inclusive.

Acknowledgements

I would like to take this opportunity to thank Dr Alison Doyle and Dr Rita Ke Ren who have both offered me their support and encouragement throughout the past year. Having their help and guidance has been a key factor in enabling me to write this thesis. I would also like to extend my thanks to the team at ICEPE, and to my fellow students who have been on the MAISE journey with me for all their support.

Gratitude is also extended to the school, the Board of Management and to the teachers who responded to the questionnaires and participated in the interviews. Their cooperation, enthusiasm and willingness to participate made this thesis possible. Without their observations and insight, this study would not have relevancy or application.

Finally, I would like to extend my thanks to my family and friends for their steadfastness, patience and encouragement over the last two years. I would especially like to thank my husband Richard and my children Reggie and Claudia who have been unconditional in their encouragement and support from start to finish.

Contents

HIBERNIA COLLEGE

List of Figures

List of Tables

Glossary of Terms

CPD (Continuing Professional Development)

NCSE (National Council for Special Education)

POPE (Playground Observation of Peer Engagement)

SETs (Special Education Teachers)

SNAs (Special Needs Assistants)

Chapter 1. Introduction

Middletown Centre for Autism (2024) states that people with autism have a different neurology which may be impacted to varying degrees by sensory, communication, and social difficulties. One of the challenges of understanding and supporting people with autism is the variability of differences and severity across individuals at different stages of their lives, which explains why autistic people's differences are on a 'spectrum'. In the past these 'differences' would have been considered 'deficits' or 'disabilities' but the social model of autism advocates that society, and the environment should be adapted to meet the needs of autistic pupils. Adopting a neuroaffirmative approach to inclusion is important and necessary because autism is no longer viewed from a deficit perspective (Fletcher-Watson et al., 2019). The Education of Persons with Special Educational Needs Act (Government of Ireland, 2004) supports the inclusion of autistic pupils in mainstream schools with additional teaching supports, or in special classes attached to mainstream schools with possibilities for integration into a mainstream class where appropriate. According to the National Council for Special Education (NCSE, 2016), 1.55% of Irish primary school children have an autism diagnosis and the DES (2018) estimated that the prevalence rate for pupils with a diagnosis who were accessing external services is 1.5%. This percentage could potentially be larger as there is a growing awareness that girls with autism are often under-diagnosed, due to their ability to mask and suppress signs of restrictive interests, repetitive behaviours and their ability to appear socially acceptable (Carpenter, Happé and Egerton, 2019). Full inclusion can only occur by schools 'creating inclusive environments and embedding inclusive teaching strategies' (Mirfin-Veitch, Jalota and Schmidt, 2020, p.4).

This participatory action research project is focused on improving the inclusion of pupils with autism in the mainstream primary schoolyard, and is relevant to a DEIS Band 1 urban, newly co-educational, primary school with 190 pupils. Pupils from three special classes also spend time in the mainstream yard since the school aims to give opportunities for full inclusion to all pupils, so improved inclusion could potentially benefit these pupils too. There is limited qualitative research into evidence-based practices which would improve the inclusion of autistic pupils in primary or secondary school yards. Dervan, Egan and Ring (2024) highlighted a gap between research relating to evidence-based practices for autistic pupils which usually occurs in clinics or in off-site settings and the lack of research in school and classroom settings; arguably a similar gap exists in the research around Irish school yards in primary education. Thus, the research question formulated for

this study is ‘How can primary schools improve the inclusion of autistic pupils in the mainstream schoolyard?’

The aim of this research project is to gain an insight into the current inclusion of autistic pupils in the yard from the perspective of school staff to effect equity, promote inclusive access, and to identify suitable strategies and adaptations to instigate changes. Participatory action research is a suitable methodology for this investigation because ‘practitioners must consider how their work is problem-focused and context-sensitive’ (Lake and Wendland, 2018, p.18). Following an extensive search of the literature, a mixed methodology was selected to produce both quantitative and qualitative data using a questionnaire and in-depth semi-structured interviews with teachers and Special Needs Assistants (SNAs). It is intended that findings and recommendations from this project will inform two further phases of action research which hope to: i) establish a sensory-friendly/ quiet space with access to nature within the school yard to accommodate the sensory needs of students with autism, ii) give opportunities for pupils with autism to learn additional skills and competencies to facilitate engagement in social interactions and to develop social skills, iii) encourage and facilitate peer buddy systems for interactions and friendships between pupils with autism and their neurotypical peers through structured activities and peer mediated programs in the school yard, while also addressing any specific challenges autistic pupil may face through the use of child assisted strategies, iv) enable training and awareness programs for both pupils and staff which are needed to increase understanding and acceptance of autism, foster empathy and to promote positive interactions and friendship and, v) provide a holistic yard integration plan for pupils from the autism special classes to integrate into the mainstream yard in a caring and inclusive manner which places the needs of the autistic pupil at its centre

Chapter 2 presents a review of the literature that establishes the key concepts of autism, the role of play and the importance of a self-regulating schoolyard, and relevant aspects of peer led and teacher led inclusion.

Chapter 2. Literature Review

Keywords

Autism, Play, Self-regulation, Social Interaction, the Schoolyard, Teacher led inclusion, Peer led inclusion

Introduction

An understanding of autism in education settings is necessary to address the research question on improving the inclusion of autistic pupils in the primary schoolyard. There is a significant volume of literature pertaining to neurotypical pupils on: i) the importance of play, ii) the benefits of a natural schoolyard, and iii) having access to nature or sensory self-regulating spaces. However, little research involving autistic pupils has been conducted, and that research has predominantly occurred in clinics. Since transferability of skills and learning in one context to another is a significant issue in autism, the research gap identified for this study is that there is a paucity of school-based research on the inclusion of autistic children in Irish primary school yards. The literature review will discuss autism, the importance of play and the need for self-regulating opportunities, how the yard can be either a barrier or a bridge to friendship and social interaction and finally, how teacher and peer-led strategies could improve inclusion, understanding and acceptance.

Understanding Autism

> 'Autism is a lifelong, developmental disability or difference which relates to how a person communicates and interacts with others, and how they experience the world around them' (AsIAm, 2024)

The American Psychiatric Association (2013) defines autism as a dyad of impairments. The first persistent deficit is in social communication and social interaction which impacts people with autism, who may have difficulty with making and maintaining friendships, understanding social cues, and sharing interests. Social and communication difficulties are impactful because skills such as nonverbal interactions (the use of gestures, eye contact, observance of personal space) and the

use of language functionally in social situations and communication skills such as greeting others and introducing oneself, are essential for socialisation and play. The second deficit is the presentation of repetitive and restrictive behaviours like hand flapping and rocking with a strong preference for routines, or sameness and narrow or intense interests, which are highly focused on specific topics or objects. Fletcher-Watson and Happé (2019) outlined the difficulties faced by autistic people with verbal and nonverbal communication, understanding and using language, using appropriate tone, and making eye contact. As a result, autistic pupils may have difficulties in relating to and responding to their peers and engaging in reciprocal play, both in the classroom environment and in the schoolyard. Milton, Gurbuz and López (2022) suggest that 'double empathy theory' poses additional difficulties for autistic and non-autistic people because both groups lack an understanding of each other's point of view, and difficulties are experienced by both communicators because understanding, and empathy must be reciprocal. Double empathy theory is preferable to 'Theory of Mind' which places the responsibility for lack of reciprocity on the autistic person. Alternative communication styles are differences not deficits and 'the real impairment is located within society and constructions of normality' (Harvey, 2018, p.91)

Since autism is no longer viewed from a deficit perspective, a neuroaffirmative approach emphasises the positive aspects of neurodevelopmental difference by recognising and accepting both differences and variations. Acknowledging the actual life experiences of neuro-diverse people and recognising their differences as strengths rather than 'deficits' which need to be fixed; means the learning environment should be adjusted to suit the needs of the learners. A neurodiversity informed approach demands that strategies for autistic children are ethical and respectful because a deficit-focused approach is detrimental to autistic peoples' wellbeing (Leadbetter et al., 2021).

The nature of play

The literature establishes the theoretical importance of play for all children including pupils with disabilities. Play and the importance of recreation were officially recognised in the United Nations Declaration of the Rights of the Child (1958) and society and public authorities were reminded of the necessity to promote the enjoyment of this right. The Convention on the Rights of the Child (UNCRC, 1989) urged signatory states to fully implement the right to play and subsequently the UNCRC (2013) issued a General Comment (No. 17) to clarify that governments were obliged to address the lack of recognition of children with disabilities, since weak or no legislation had been

enacted and suggested that schools still might not realise the critical importance of play (UNICEF, 2018).

Whitebread et al. (2009) considered that play in any context enhanced readiness for school and cognitive processes, because remembering information and learning incidentally are effortless while 'intentional' learning requires effort, concentration and a wide range of skills including planning, evaluating, and selecting appropriate cognitive strategies. In addition, they indicated that pupils' academic and future attainment are contingent on social development and the ability to acquire problem-solving and self-regulatory skills. The inclusion of playful learning in the new Primary Maths curriculum is indicative of the importance of incidental learning (National Council for Curriculum and Assessment, 2023). While accepting the importance and value of play for the social development of young children, Irani (2023) advocated that learning through play capitalises on children's abilities, learning styles and progression rates, while allowing for diversity. Zosh et al. (2018) acknowledged the dearth of research pertaining to autistic children. They attempted to define the concept of play by visualising play as a spectrum; extending from free play which is completely unstructured and unsupported, to guided play which is purposeful with playful elements and supported by adults. Acknowledging the role of play in a child's social, physical, emotional, and cognitive development is explored in the research, but little attention has been paid to pupils with autism having equality and equity of access to play environments.

The need for a self-regulating sensory schoolyard

Transitioning from a classroom environment to an unstructured schoolyard can be challenging because of the lack of predictability, loud noises, and chaotic environments which can overwhelm autistic children who are already sensitive to sensory overload and anxiety (Martin et al., 2019). The yard is necessary to decompress, self-regulate and sometimes to stim. There is little evidence about the design and suitability of natural playgrounds for pupils with autism despite the conclusive evidence of the benefits for neurotypical children. Frost (1992) posited that natural outdoor school playgrounds led to play which helped all pupils with the acquisition of new information, skills, social rules, communication, and a higher quality of dramatic play with a greater variety of play themes.

Wild, natural playgrounds were noted by Luchs and Fikus (2013) to extend periods of dramatic play and give opportunities for exploration, discovery and construction compared to outdoor contemporary playgrounds with swings, slides, monkey bars etc. Czalczynska-Podolska (2014)

highlighted that outdoor playgrounds which had moveable, interchangeable components and elements that could be adapted and repurposed, led to enhanced creativity and communication. Children benefit most from nature-rich environments which have natural elements like mud, water, sticks, rocks, and vegetation to stimulate pupils' natural curiosity to explore, build and play imaginatively according to Cox, Loebach and Little (2018), Subsequently Loebach and Cox (2020) designed a *Tool for Observing Play Outdoors* (TOPO) to effectively assess or design play environments which support rather than hinder various kinds of play. The TOPO added three new categories of play: bio, restorative, and digital, reflecting the changing patterns of modern life and the importance of self-regulation and nature.

Research by Miller et al. (2017) quantified childrens' behaviour using playground equipment focusing on autism, ADHD, sensory and regulatory disorders. Among the sensory features of play researched were tactile (digging in sand), proprioceptive (hanging from ladder rungs) and vestibular (spinning on an Omni-Spinner). The researchers hypothesised that these sensory features, especially proprioceptive activities, helped pupils maintain a well-regulated state which functioned as a mediator for increased verbalisation, turn-taking, working together and improved play abilities. Since play environments can shape play behaviour and social interaction, they advocated the need for sensory-rich and well-designed playgrounds.

Blake et al. (2018) using a small sample size, similarly, determined that Irish preschool children with autism showed a preference for free outdoor play involving nature and sensorimotor activities, and had more frequent engagements with peers there, than in other play environments. They observed that autistic pre-schoolers imitated and developed play progression and additional skills from observing their neurotypical peers which indicated the benefits of inclusion. However, a later study by Fahy, Delicâte and Lynch (2021) observed autistic children attending a special class in an Irish primary school and noted that the presence of mainstream pupils negatively affected the play and choice of play activity, and that autistic pupils were more likely to look for quiet spaces particularly when the mainstream children were in the yard. They also reinforced the notion that a natural playground is good for the acquisition of communication skills and for pupils to self-regulate by swinging, spinning and sliding, and noted that running in groups on a circular route was their preferred activity. Self-regulation by watching spinning and swinging objects was frequently noted and although pupils played imaginatively with leaves and sticks, they also showed a significant dislike of muddy and messy activities. The researchers recommended a shift in perspective to regard play as an occupation, arguing against the dominance of deficits and the childhood developmental

norms of play. Instead, they recommended a rights-based approach which focussed on 'being' and 'doing' in the present as opposed to 'becoming' in the future.

Guirguis (2018) demonstrated that play is important for self-regulation and 'is a medium through which a child learns to socially interact' (Guirguis, 2018, p.45). Both self-regulation and social interaction are difficulties experienced by autistic children, so having an inclusive well-equipped yard is essential. Despite the evidence of the value of a self-regulating play area, the NCSE (2024) gives scant regard to, and little or no funding for inclusive outdoor sensory spaces, while significant funds and advice are available for the creation of indoor sensory rooms in an exclusionary manner, within dedicated autism units.

The schoolyard: barrier or bridge to inclusion

The nature of unstructured yard time can be challenging for autistic pupils who thrive on routine and predictability, making it difficult for them to engage in play activities or join peer interactions. Thomas (2004) explains the everyday experience of living with a disability through 'the social relational understanding of disability' and provides a deep understanding of the segregation and exclusion that occurs. She identifies 'barriers to doing' as socially restrictive impositions that preclude involvement in specific activities. As a result, 'barriers to being' are experienced due to negative feelings like sadness and loneliness because the environment has not been adapted to facilitate inclusion. 'Impairment effects' are evidenced when a person's ability to take part in society is directly and unavoidably curtailed because of the disability. Therefore, enabling the inclusion of autistic pupils by removing 'barriers to doing' in the environment is key to addressing 'barriers to being' and children with autism can be genuinely included in the mainstream school schoolyard, thus avoiding the 'impairment effects'.

When a schoolyard has not been adapted to meet the needs of pupils with autism, or neurotypical pupils or staff lack empathy or knowledge to act inclusively, the social relational understanding of disability can be very impactful. 'Impairment effects' can lead to a lack of interaction, social isolation, and repetitive and restrictive movements. Adopting the social model of autism means the yard should be adapted to meet the needs of all children 'We want to be involved in our communities, be out and about and have fun' (Middletown Centre for Autism, 2017, p.6). Being able to participate in a group by understanding and following the social rules is strategically important in the school and yard context. A deficit in attending to social cues, not engaging in joint

attention, and not sharing experiences can lead to pupils feeling isolated, ill at ease and withdrawing. 'Recreation and leisure activities provide an important context for learning and developing social skills and help to promote general wellbeing and happiness' (Department of Education and Science, 2022, p.81). In a systematic literature review, Dervan, Egan and Ring (2023) recommended the identification of evidenced based practices which are realistic, implementable and achievable which should be used in natural settings. The classroom and the school yard were highlighted as the most important settings for autistic children to acquire and practise social communication and social interaction skills to promote positive inclusive outcomes. They noted that possessing, or acquiring good social skills are key to more successful engagement in social situations. An inability to initiate or sustain interactions with peers may lead to communication barriers like social isolation or misunderstandings due to differences in verbal and nonverbal communication.

Rowley et al. (2012) discussed the vulnerability of autistic pupils in the schoolyard who have difficulty understanding jokes, having unusual and restricted interests and limited topics of conversation. These behaviours identify autistic pupils as being 'different' leading to teasing, mockery, isolation, or rejection. Batten (2005) revealed that peer bullying and the encouragement of autistic pupils to engage in inappropriate behaviours in the schoolyard due to their inability to understand social cues and other peers' motives, can lead to frustration because 'low level bullying and teasing from other children trigger a sudden and violent response' (Batten, 2005, p. 93). In a survey of 1221 parents, Zablotsky et al. (2014) demonstrated that pupils with a diagnosis of Asperger's Syndrome have a greater risk of being victimised and autistic pupils attending mainstream classes were more likely to be bullied than those in autism units. Chiu et al. (2018) in a parental survey on risk factors and victimisation of autistic pupils found that 72% of adolescents with autism experienced exclusion and isolation and 62% reported verbal bullying. Having friends or a peer group in the yard serves as a protective factor and a deterrent to bullies according to Kendrick, Jutengren and Stattin (2012), whose findings supported the 'friendship protection hypothesis' (p. 1069) The researchers emphasised the quality of support and suggested that interventions should focus on increasing the perceptions of support groups. Alcorn et al. (2023) concluded that following the Learning about Neurodiversity at School programme (LEANS) neurotypical pupils understood the concept and terminology of neurodiversity and had increased positive attitudes and intended actions. Couper, Sutherland and van Bysterveldt (2013) acknowledged the value of the schoolyard in building an inclusion bridge for students with social

communication and social interaction difficulties, to help them to engage in typical playground games or group activities when they have limited interests or prefer solitary activities. The researchers emphasised the value of play as an opportunity to develop skills in co-operation and friendship:

> 'Inclusion is more than just placement in regular classrooms. It is about feelings of belonging in the whole school community and that includes being able to participate. in the school playground without feelings of anxiety, isolation, or vulnerability.'
> (Couper, Sutherland and van Bysterveldt, 2013, p25)

Evidenced based strategies for inclusion

Much of the literature is concerned with the effects of autistic children's deficits and focuses on how those shortcomings could be remediated. Syriopoulou-Delli et al. (2016) in a study of primary and secondary education in Greek autism units examined the impact of age, gender, cognitive ability, and language differences on social skills. They concluded that all pupils with deficits in social communication competencies and social interaction skills have reduced social outcomes and experience exclusion from peer groups, but the variables which most influenced the socialisation of autistic pupils were intellectual disability and language impairments. Arguably therefore, since only autistic children who are capable of, or suitable for inclusion in the mainstream yards of Irish schools exhibit neither of these variables, improved inclusion in the yard is possible.

In a similar but smaller study, Yavuz, Selçuk and Korkmaz (2019) investigated the associations between communication skills and social competence in autistic children through teacher observation and suggested that improving non-verbal skills through interventions might increase positive social relations. Chamberlain, Kasari and Rotherham-Fuller (2007) indicated that reduced social communication competencies and social interaction opportunities significantly impacted friendships and noted that children with autism who 'experienced lower centrality, acceptance, companionship, and reciprocity; yet they did not report greater loneliness' (p. 230). They outlined that loneliness or aloneness may result from lack of self-awareness, social skills, or the autistic pupils' interest in solitary pursuits and that engagement with classmates should be facilitated and encouraged.

Teacher led inclusion (Child assisted interventions)

Fahy, Delicate and Lynch (2021) established that much of the literature about inclusive play related to staff leading or organising child assisted interventions to improve the social skills of autistic pupils. Chang, Shih and Kasari (2016) similarly noted that teaching classroom strategies such as friendship themed social stories, role-play using puppets and friendship modelling were useful to develop friendships. Alternative activities and playmates could be suggested, and inappropriate behaviours could be re-directed to improve the quality of dyadic play. They suggested that the definition of friendship or the reliability of reports about friendship needed to be reconsidered because the pupil observed by the teacher as being a significant friend to the autistic child was not identified by the parent of the autistic child as being a friend 50% of the time.

Research from Kretzmann, Shih and Kasari (2015) 'Remaking Recess' yielded positive results indicating that autistic children benefited from increased staff knowledge and their use of inclusive strategies. The intervention was led by the researchers who trained staff on the social difficulties of autism, provided daily coaching for identifying autistic pupils, modelled strategies for starting games and conversations and guided how and when staff should fade support. At follow-up, the researchers noted that although engagement remained significant, staff buy-in did not, and the need for regular staff training was advised. Gilmore et al. (2019) highlighted areas where autistic pupils could benefit from support in the playground, particularly around appropriate conflict resolution. Thiemann-Bourque, Johnson and Brady (2019) noted how teachers can hinder peer to peer relationships in the mainstream setting because of their supervisory presence. Having an adult present may be reassuring for an autistic pupil who has a preference to 'engage more frequently in social activities with parents and other adults than with peers' (Bauminger-Zviely and Agam-Ben-Artzi, 2014, p.1734), however, non-autistic pupils may find it off-putting when an adult interferes and directs their play. Dervan, Egan and Ring (2024) concluded that school was the optimal environment to teach acceptance through collaborative play, and school staff were best placed to teach peer-mediation. They stressed the necessity to develop school-based social communication and social interaction opportunities so that successful inclusion is enabled and facilitated.

Peer led inclusion

The Playground Observation of Peer Engagement (*POPE*) designed by Kasari, Rotheram-Fuller and Locke (2005) is a timed-interval behaviour-coding system and was used by Kasari et al. (2012) to evaluate peer-mediated and child-assisted interventions (teacher led) where neurotypical peers received training and autistic pupils were taught social skills. They concluded that peer mediation was superior to child assisted interventions and gains were maintained after three months because it is an evidenced-based practice which encourages neurotypical peers to participate and to communicate effectively with their autistic peers. Autistic pupils benefitting from both peer-mediated and child-assisted interventions made additional significant gains. Like research by Chang, Shih and Kasari (2016), the researchers demonstrated that reciprocal friendships remained low because autistic pupils did not nominate a neurotypical peer as a friend and hypothesised that pupils with autism did not recognise the offers of friendship. In a follow-up study, it was noted that only the peers involved in peer mediation training continued to be more inclusive, resulting in autistic pupils engaging in less solitary play and more conversation and games. Some caveats to this research are that the pupils in this study were male, and female friendship can be very nuanced, and since researchers and not staff administered the intervention, the learning acquired was not maintained within the school. In a systematic review, Young (2019) reported considerable variability on the role of peers and noted that the lack of follow up data limits the generalisation of findings.

Conclusion

The limited research on the inclusion of pupils with autism in primary school suggests that evidenced school-based training and research yields the best short-term and long-term results, however regular upskilling is necessary to maintain the gains. Research utilising strategies taught in clinics by researchers is not readily transferable to school settings. To reduce the 'impairment effect' of the social relational understanding of disability means adapting the yard, teaching about neurodiversity, and encouraging active and genuine inclusion. Peers are the best mediators, but learning from inclusive education programmes does not extend to peers who have not been taught the programme, therefore a whole school intervention and an informed mindset is needed. Blake et al. (2018) stresses the importance of inclusion for the acquisition of social skills and learning from peers through observation and imitation, but Fahy, Delicâte and Lynch (2021) noted that autistic

pupils may be uncomfortable and change their play patterns when non-autistic pupils are present. Applying the social model of inclusion means adapting the yard and accommodating the needs of all children through systemic change across the school community, but the needs and vulnerabilities of pupils with autism must be considered to ensure well-being and to reduce the risk of victimisation. The following chapter sets out the methodology adopted for this participatory action research study.

Chapter 3. Research Methodology

Introduction

This chapter outlines the research design adopted for this study which investigated the inclusion of autistic pupils in a primary school yard. A rationale for the selection of data collection methods, instruments and sampling, the decision to use both qualitative and quantitative approaches to triangulate the results, the recruitment of participants and storage of data is discussed. Finally, reflexivity, ethical considerations and limitations of the study are also considered.

Using the philosophical worldview of pragmatism, the aim of the study was to acquire a range of perspectives using questionnaires and semi-structured interviews to establish practical, achievable, and transformative strategies for improving the schoolyard environment. Epistemology according to Ejnavarzala (2019) is concerned with theories of knowledge and what comprises knowledge. Saunders, Lewis and Thornhill (2009) state that the epistemological concept of pragmatism depends on the research question and that any observations of phenomena and subjective understanding provide usable knowledge. They also outline the ontological concept of pragmatism as using multiple views of external knowledge which allows the research question to be answered. Brydon-Miller (2020) determined that participatory action research 'has a distinct ontological and epistemological stance' (p. 108) and recommended that the generation of knowledge, the research findings and applications should have input from all stakeholders. They questioned whether the ultimate ownership of the research remained with the researchers or the collaborators.

Research design

The choice of participatory action research was derived from the need to investigate inclusive practices in the primary school yard in a real-world environment, and to gain knowledge about the inclusion of pupils from experienced educators before beginning a transformative process. Al-Ababneh (2020) concludes that a quantitative methodology is based in the positivist paradigm while qualitative methodology is based in the interpretivist paradigm. Interpretivism is situated in the ontological concept of pragmatism which advocates for the use of qualitative and quantitative methods and any other means of obtaining knowledge and insight. Lake and Wendland (2018)

recommended participatory action research for practitioners who wish to respond justly, democratically, and swiftly to complicated place-based, and specific social issues. They hypothesised that conventional research is rarely inclusive and that training resilient change-agents who have the ability, authority, and flexibility to address the challenges in a collaborative manner should be advocated for. Kivunja and Kuyini (2017) reported that participatory action research is useful to generate knowledge collaboratively, to act impactfully, and to disseminate findings in a productive and transformative manner.

Participatory action research is placed within the pragmatic paradigm because it rejects the need to situate the research within either the positivism or interpretivist paradigm. It enables the researcher to address questions without being concerned whether the data is quantitative or qualitative, uses actions and research methods which are best suited to the study, and emphasises the need for the practical and the possible. It also allows for the selection of the most appropriate and feasible research design and methodologies, when the acquired data is from 'people in the know, books, leaders in organisations' (Kivunja and Kuyini, p.27).

The aim of the first phase of this participatory action research project is to improve the inclusion of autistic pupils in the schoolyard by consulting staff as an initial step towards instigating change. After the submission of the thesis the second phase of the study will identify areas or topics which need addressing and autistic and neurotypical pupils could be interviewed individually and consulted collectively through the student council.

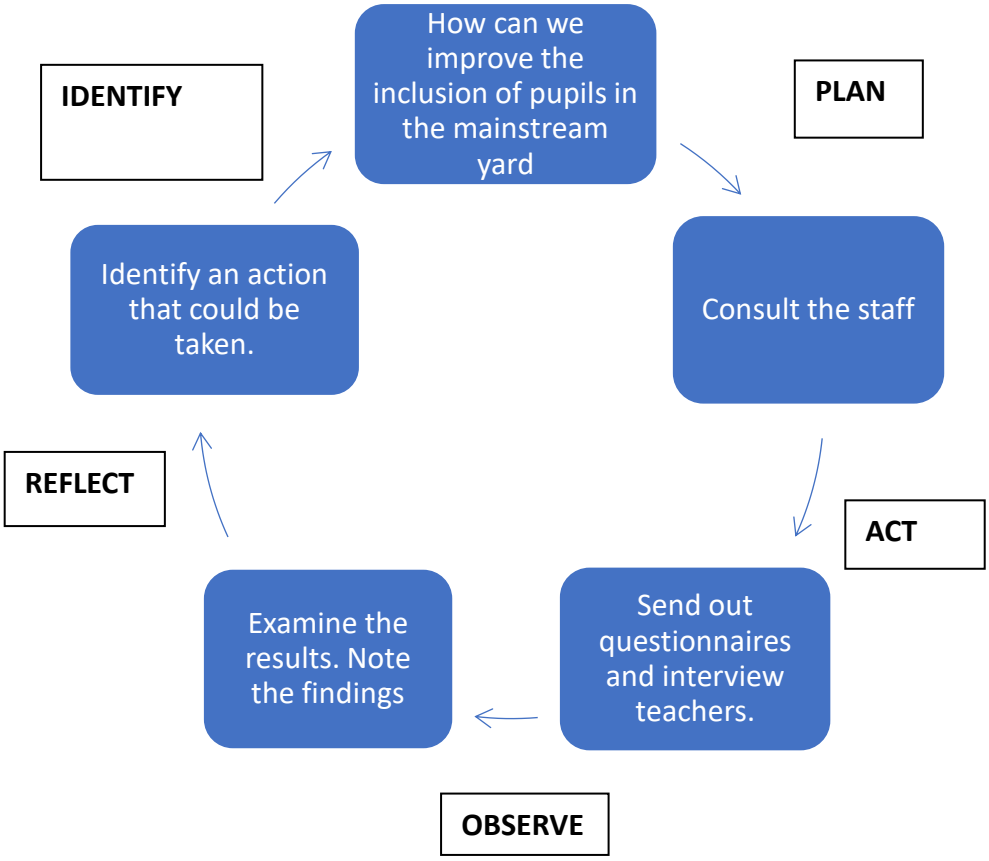

Figure 1: Planning and implementing phase 1 of the participatory action research project

Data collection methods, instruments, and sampling

This mixed methods study gathered both quantitative and qualitative data from a questionnaire circulated to twenty-eight staff members within one school. For triangulation and consistency, qualitative data was gathered from five semi-structured interviews. Saunders, Lewis and Thornhill (2009) recommended using different data collecting techniques to ascertain that the data from the quantitative survey, verified the data from the qualitative interview. According to Silverman (2021) triangulation can be either method triangulation which combines different ways of obtaining data or data triangulation which combines different findings.

The semi-structured interview (Appendix 1) was designed using a five-phase framework (Kallio et al., 2016) which involved the identification of pre-requisites for choosing the semi-structured interview format, the gathering and application of previous knowledge, the formulation and pilot-testing of the semi-structured interview guide and the presentation of the complete semi-

structured guide so that subsequent researchers could exactly replicate the study. The research advocates for the contribution to objectivity, trustworthiness, and plausibility of this method. The semi-structured interview was designed with follow-up questions and prompts, piloted, and amended until the questions sought the specific information needed and excluded the gathering of unnecessary data. Although Kallio et al. (2016) advocated using the framework for semi-structured interviews, the questionnaire for this study (Appendix 2) was designed in a similar fashion for ease of triangulation and thematic analysis, to produce both quantitative and qualitative data and to demonstrate a consistency with the qualitative data from the semi-structured interviews. The questionnaire employed closed and open-ended questions, Likert questions and photographs, and was piloted for validity and reliability (Creswell and Creswell, 2017).

This study used convenience sampling of school staff with the purpose of gathering data from participants who had at least three years of teaching experience, or three years of supporting autistic pupils in the classroom, and who had supervised regularly in the mainstream yard. Pupils and parents were excluded. In this study, questionnaire respondents included members of school staff: class teachers, Special Education Teachers (SETs) and SNAs, the latter group spend nearly 150 minutes a week supervising in the yard while teachers spend just 30 minutes weekly in supervision. A final question in the questionnaire invited all respondents to volunteer to take part in a semi-structured interview from which five participants were randomly selected. Respondents who did not meet the criteria were excluded from the data generated.

Ethical considerations

Ethical approval for the study was sought from Hibernia College Ethics Committee and from the principal of the primary school. Adhering to the principles of British Educational Research Association (BERA, 2018) ethical guidelines was paramount in the design and execution of the research to protect participants from risk or harm, to ensure informed consent was sought and participants were aware of their freedom to withdraw from the study. The confidentiality and anonymity of any information supplied was guaranteed and GDPR considerations were paramount in the storage of data. The questionnaires were formulated using Google forms. Soft copies (e.g., transcripts, questionnaire responses) are stored on the school Google Drive that requires a two-step verification and could only be accessed by the researcher and the supervisor if necessary. The interviews were recorded using a voice recorder application on a mobile phone without a

functioning SIM card and unconnected to the internet. Audio data was transcribed to a dedicated two-step password protected file to a Microsoft 365 school account before the audio recording was deleted. Only data needed for the participatory action research project was collected and will be retained after the project is completed for three years. All names and identifying information were changed. Hard copies of paper notes of interviews are stored safely in a lockable, fireproof cabinet, while the interview consent forms are stored separately from the interview data in a locked fireproof cabinet in another office within the school premises, both of which are secured daily. Data was not stored on a portable memory bank and the computer used is securely password protected.

Research procedure

On receiving permission from Hibernia College Ethics Committee to begin data collection, the researcher met with the School Principal and informed him of the nature of the action research project and how the potential of the research could benefit and improve the inclusion of autistic pupils. The researcher explained the rules and regulations around anonymity and confidentiality and obtained the principal's signed permission before proceeding (Appendix 3). He was provided with copies of the information sheets, consent form, the questionnaire, and the semi-structured interview questions. Subsequently, the researcher placed information leaflets (Appendix 4a) describing the study in the staffroom and subsequently emailed a project information letter (Appendix 4b) to all potential participants which included a link to an online questionnaire.

The first section of the questionnaire (Appendix 2) reiterated the purpose of the study and invited respondents to confirm their understanding and give consent to participate before continuing to the next section. A final question in the questionnaire invited all respondents to volunteer to take part in a semi-structured interview from which five participants were randomly selected. Once confirmation of agreement to be interviewed was received from the self-selected participants, they were provided with the Research Information Sheet (Appendix 5) which explained in detail the nature of the research and the procedures involved and informed them that their consent could be withdrawn without any negative consequences during the data collection phase, and up to one month after data collection was completed. Participants were provided with a copy of the interview questions in advance (Appendix 1) and could access a copy of their recording and/or transcript of the recording on request. Research participants were informed of the right to confidentiality, anonymity and non-traceability of any information and opinions which they

provided during the research. They were informed that the data may be used to present at conferences or to publish academic papers.

Immediately prior to the interview, participants were given an opportunity to further clarify that they are agreeable to the interview before signing a consent form (Appendix 6). The thirty-minute semi-structured interviews took place in the office of the Autism Unit outside of school hours for privacy and confidentiality, and not to erode teaching time. A SIM-free mobile phone was used to record the interviews and was locked securely while the data was being transcribed. A range of school documents (e.g. Special Education Needs Policy, yard code of behaviour and attendance records) were also collected.

Data analysis

Two questions of the questionnaire ascertained whether the respondent supervised in the mainstream yard and if they had more than three years teaching or working experience with autistic pupils. Data from respondents which did not meet the criteria was removed before proceeding to generating results. Data from the open-ended questions in the questionnaire was statistically analysed for descriptive frequencies and interviews were transcribed and analysed thematically due to the flexibility and adaptability of thematic analysis. Braun and Clarke (2023) outlined the diversity of thematic analysis and proposed that it is better understood as a family of methods. Open ended questions from the questionnaires and interview transcripts were analysed inductively to determine emerging themes, and deductively to identify codes as recommended by Hatch (2023).

Three levels of coding were generated to capture the totality of the data guided by Langdridge (2009), who advocated that first order coding categorises and organises the data into chunks leading to multiples of descriptive codes. In this action research project, the second order coding reduced the number of codes into broader categories and moved towards interpreting the participants words and intentions. Third order coding and thematic analysis drew out the overarching themes and captured the meaning in the descriptive and interpretative codes resulting in key ideas and observations. The codes were reviewed multiple times until consistency in theme identification was reached. Having designed the questionnaire and the semi-structured interview to capture data which aligned with pre-selected themes as suggested by Kallio et al. (2016), great care was subsequently taken to avoid topic summaries in the data analysis phase, and to let the data dictate the themes as recommended by Braun and Clarke (2023), who warn against being pre-

disposed towards set themes and to observe reflexive practices by letting the themes self-identify. Folkes (2023) advocates not being limited to a menu of positionalities but to have an awareness of the value of visible and invisible tools to develop reflexive qualitative research. Subsequently interview data was re-examined to observe the interviewees' uncertainty, lack of confidence, changes in tone of voice, and pauses to reflect the invisible and unwritten communication leading to more authentic and trustworthy analysis.

Limitations of the study.

Being a newly vertical and co-educational school with three newly established autism special classes, many of the staff are young and newly qualified. The school is an urban DEIS Band 1 school and there is a high rate of absenteeism (15.5%) among all pupils including autistic pupils, which may or may not impact the data on inclusive practices in the yard. Replicating the study in schools where the autism special classes are well established, where the staff is older and more experienced, or in a non-DEIS school could be beneficial. Even though Brydon-Miller (2020) recommended consulting all stakeholders, it was not possible to include the voice of the autistic pupil in the first phase of the action research project. Since the convenience sample size was very small and the lack of random selection of respondents means that selection bias restricts large-scale generalisation of the findings (Emerson, 2021). The researchers personal bias has been noted and steps taken to become more reflexive through journalling, engaging in additional research, consulting with the supervisor and re-examining the data to reflect hidden communications and meanings.

Conclusion

Gathering, assembling, and analysing the data ethically and reflexively into a coherent, nuanced and true reflection of the current state of the inclusion of autistic pupils in the school yard with the intention to address the challenges was an arduous task, but the time taken reflects the necessity to let the themes self-identify (Braun and Clarke, 2023). The totality of data accumulated from the questionnaires and the semi-structured interview will be expanded further in the Findings Chapter that follows.

Chapter 4. Findings

Findings are presented in two sections. Section 1 outlines staff viewpoints on the inclusion of autistic pupils in the mainstream yard, their confidence level when working with autistic pupils and their personal continuing professional development (CPD) specifically in autism. Staff perceptions of autistic pupils' enjoyment of the mainstream yard and the difficulties which staff have identified as being impactful for autistic pupils is detailed. Staff perceptions of neurotypical pupils' awareness of autism and a comparison between inclusion in the junior and the senior yard is also reported.

Section 2 reports staff responses as to how the yard could be physically adapted to enable inclusion. Teaching and learning strategies are identified which could be introduced to enhance the experience of the school yard for autistic pupils. Finally, there is an account of the role that neurotypical peers can play in fostering the inclusion of pupils with autism in the school yard.

Section 1: staff viewpoints, confidence levels and continuing professional development

Respondents' characteristics

The questionnaire was completed by twenty- three staff members, and responses to the first two questions eliminated five respondents who did not fulfil both criteria of having more than three years' experience of working in schools (Q.1) and working with autistic pupils (Q.2) (Figure 2). The profiles of questionnaire participant indicate that nine respondents (50%) have between three- and five-years' experience with autistic pupils. However, since five respondents were excluded because they had less than three years' experience, the percentage of respondents with less than five years' experience is high at 61%. All staff have had experience of supervising in the mainstream yard (Q.3).

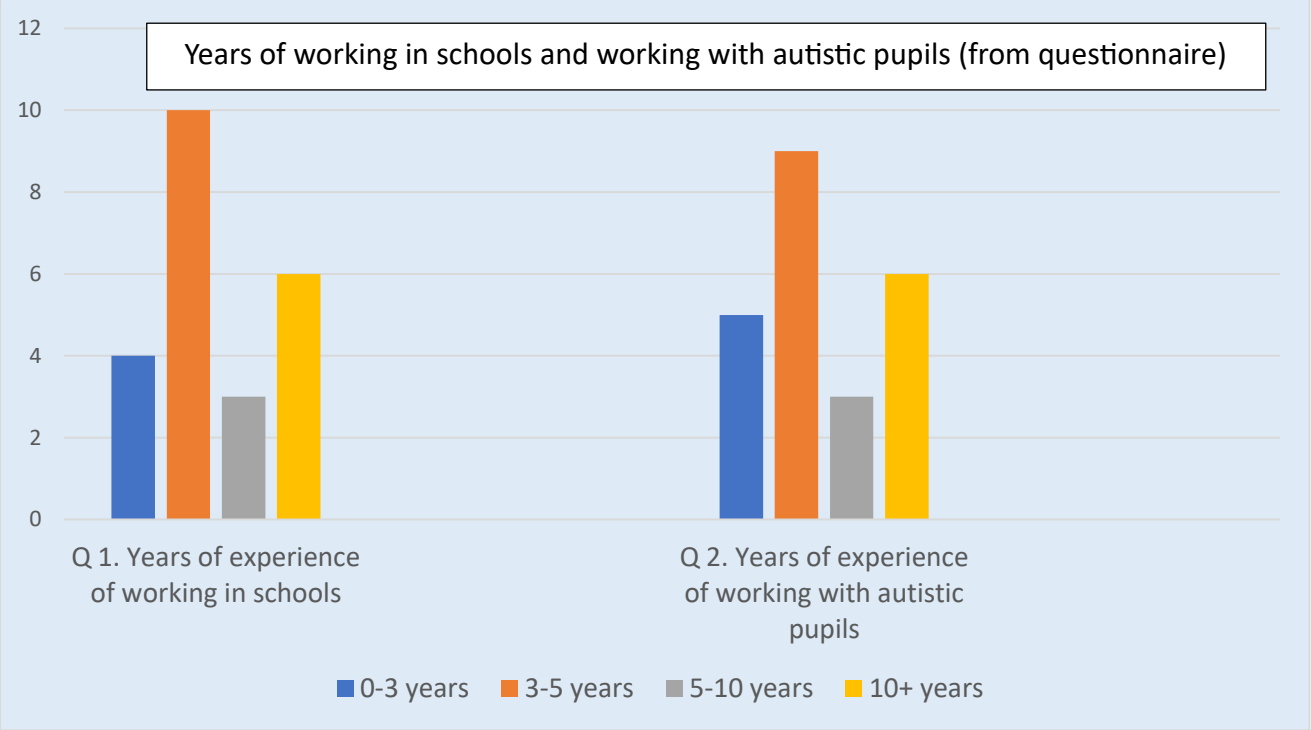

Figure 2. Respondents' years of working in schools and working with autistic pupils (from questionnaire)

Staff continuing professional development and confidence levels.

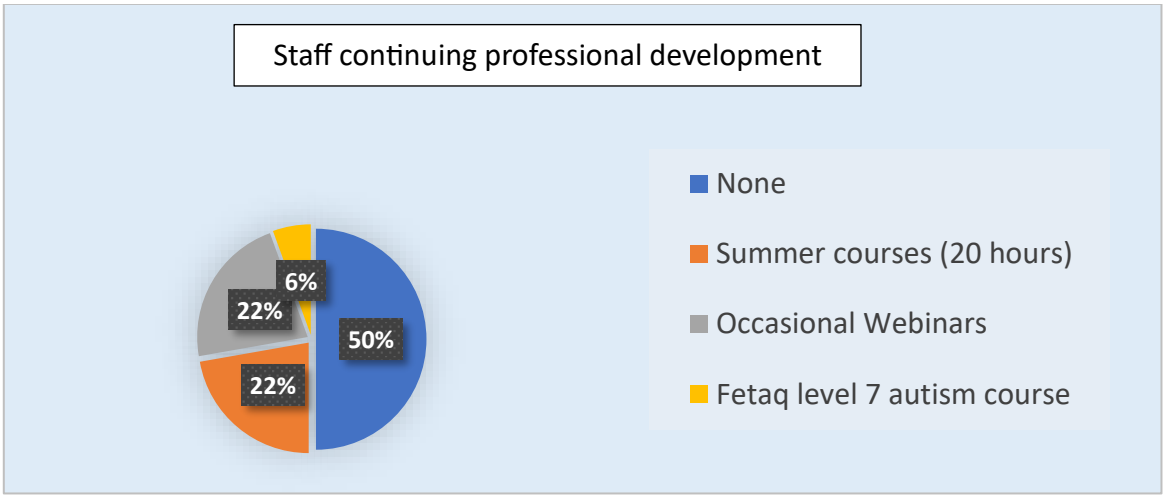

Figure 3. Staff continuing professional development

Half (50%) of questionnaire respondents reported that they had not received any training or CPD in autism and only 22% had accessed a small number of webinars. One respondent had completed a

summer course in autism (20 hours), and another had completed a QQI level 7 autism course (Figure 3). From the questionnaire, only 33% of staff were very confident in their ability to support an autistic pupil in the yard, 56% were somewhat confident and all five interviewees were very confident (Figure 4).

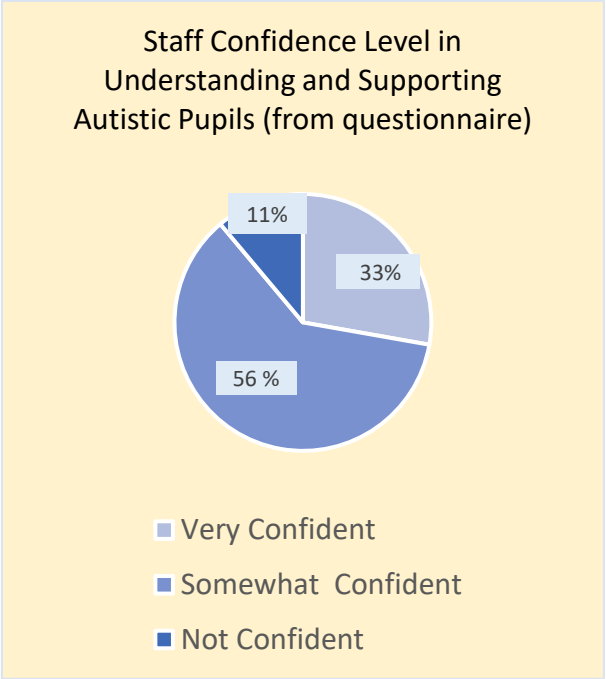

Figure 4. Staff confidence levels in understanding and supporting autistic pupils.

Staff viewpoints on the inclusion of autistic pupils in the mainstream yard.

From the qualifying staff members, 78% felt that inclusion should be a school-wide initiative and whilst 22% agreed with that sentiment, they observed that autistic pupils should also learn to adapt to the yard. Each of the five participants who agreed to an individual interview noted the need to teach social skills to all children including autistic pupils, and that all pupils needed to adapt to social situations, and to the yard. No staff members indicated that it was solely the responsibility of the autistic pupil to adapt. Participant 4 felt that bullying was not an issue and that there is less of a stigma to autism now than in the past, but inclusion should be expected.

Staff perceptions of autistic pupils' enjoyment of the yard.

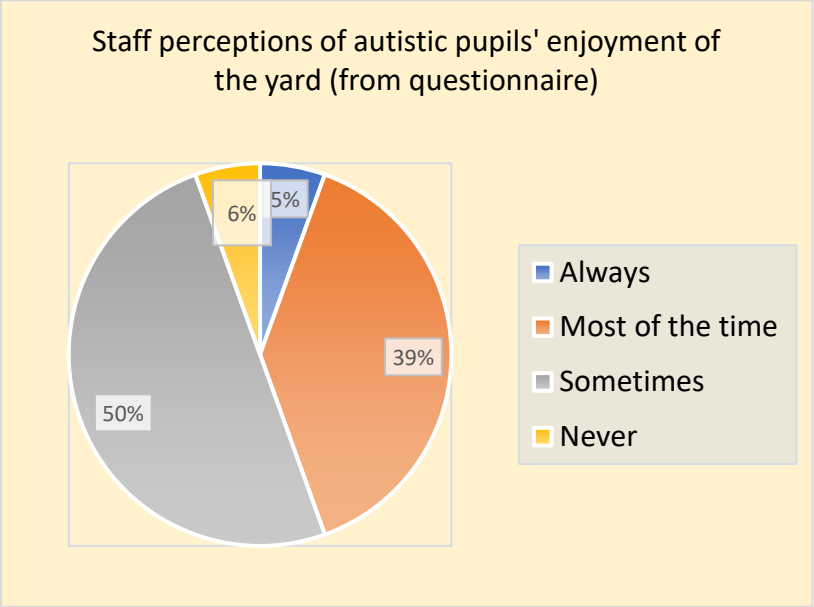

Figure 5. Staff perceptions of autistic pupils' enjoyment of the yard (from the questionnaire)

From the questionnaire, staff perceived that autistic pupils sometimes enjoyed the yard (50%) or most of the time (39%) (Figure 5). All interview participants felt that autistic pupils sometimes enjoyed the yard but that it depended on the day, the child, the other children, whether the pupil was integrating from the autism special class, and many other variables. Participant 3 noted that autistic pupils can be overstimulated by the time they come out to the yard and need to de-stress. Participant 1 observed that autistic pupils 'enjoy the yard but not in the same way as other pupils……. I see them wandering around on their own or, running around the edge of the astro-turf with one other person'. Three interviewees spoke about the additional needs and anxieties of pupils from the special class when integrating in the mainstream yard. The number of pupils, the range of classes, the lack of availability of familiar toys and equipment, the noise level, the lack of a sensory area, the presence of ball games, the lack of a safe and quiet space and the lack of a coherent general integration policy or plan, all contributed to their anxiety. Two staff from the interview observed that autistic pupils from the special class were happy to play on the climbing frame prior to the arrival of the mainstream pupils.

Difficulties in the yard as identified by staff

Data from the open-ended survey questions exploring the nature of difficulties yielded findings which partly reflected some of the difficulties which the interviewees had noted (Table 1).

Difficulties in the yard as identified by teachers/ SNAs		Open ended questions in questionnaire	Interviews
The structure of the yard and regulation difficulties	Autistic pupils can seek to be alone	7 (38.8%)	2 (40%)
	There are too many pupils in the yard/ the yard is busy	3 (16.6%)	3 (60%)
	Autistic pupils can be affected by noise	6 (33.3%)	4 (80%)
	Autistic pupils need to regulate (Stimming, swinging, spinning, walking around etc)	3 (16.6%)	4 (80%)
	Lack of appropriate equipment	5(27.7%)	4 (80%)
	Need to have access to nature.	3 (16.6%)	4 (80%)
Social Emotional Competence difficulties	Autistic pupils can lack social skills	11 (61.1%)	1 (20%)
	Autistic pupils can have difficulties communicating effectively	3 (16.6%)	0 (0%)
	Autistic pupils can have difficulties knowing how to initiate play	6 (33.3%)	2 (40%)
	Autistic pupils can have difficulties playing with neurotypical pupils	10 (55.5%)	1 (20%)
	Autistic pupils can have difficulties understanding rules	5 (27.7%)	1 (20%)
	Autistic pupils can get upset when others do not follow their rules	3 (16.6%)	1 (20%)
	Autistic pupils seek to play/talk with adult	2 (11.1%)	3 (60%)
	Autistic pupils do not like changes in routine/ changes in staff	2 (11.1%)	1(20%)

Table 1. Difficulties encountered by autistic pupils in the yard as identified by staff

Two significant themes of difficulties emerged from the data: the physical structure of the yard and the need for self-regulation, and social emotional competencies. Among the regulation difficulties outlined by both interviewees and questionnaire respondents are; autistic pupils seek to be alone, are affected by noise and need to self-regulate by stimming, swinging, spinning, walking around and general movement. They also become upset with peers who do not follow their rules and react when there is a change in routine or staff. Participant 2 noted that self-regulating is onerous for an

autistic pupil because there are too many pupils running about, or the yard is busy and there is a lack of appropriate equipment and access to nature.

Difficulties with social emotional competencies as noted by staff included that; autistic pupils lack the necessary social skills, may not know how to play with neurotypical pupils, may not understand the rules or know how to initiate play, may not be able to communicate effectively, and would prefer to play/talk with an adult. Participant 4 added that autistic pupils often want to spend time with adults because they feel more comfortable. Participant 3 observed that the yard can be an 'intimidating and hard place to navigate' for pupils with autism. Difficulties highlighted by Participant 1 included the integration of pupils from the special class into the mainstream yard where the lack of structure and access to nature, unfamiliar pupils, the noise level, and unfamiliar climbing frames and toys did not ease their transition. Participant 5 noted the importance of the SNAs who are in the yard every day and who provide consistency and certainty for autistic pupils.

Teacher/SNA perceptions of neurotypical pupils' awareness of autism

Responses to the question on autism awareness (Figure 6) indicate that staff believe that only 11% of all pupils are aware of autism, while 83% of staff felt that some pupils have an awareness and 6% of staff feel that neurotypical pupils have a limited understanding. In the interviews, three staff felt that pupils in the senior classes had more awareness or tolerance of autism, but that it did not result in better inclusion.

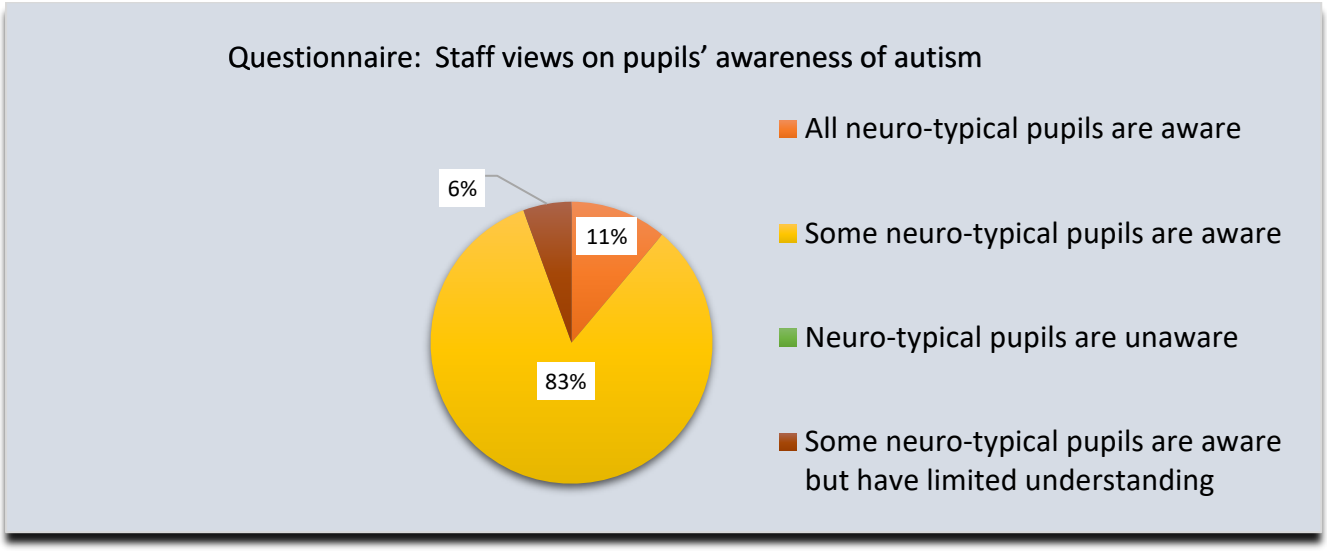

Figure 6. Staff views on pupils' awareness of autism (from the questionnaire)

Is inclusion of autistic pupils the same in the junior and senior yard.	Explanations	Open ended question	Interviews
Inclusion is better in the senior yard because	Senior pupils are more aware of the needs of autistic pupils	4 (22.2%)	3 (60%)
	It depends on the year group. Older pupils can be more tolerant.	1 (5.6%)	2 (40%)
Inclusion is worse in the senior yard because	Senior pupils play more sport/ ball games	4 (22.2%)	4 (80%)
	Senior pupils avoid anyone who is different	2 (11.1%)	0
	Autistic pupils play alone more on the senior yard.	3 (16.7%)	2 (40%)
Inclusion is better in the junior yard because	Junior yard is more inclusive.	3 (16.7%)	4 (80%)
	Play is gentler	1(5.6%)	3 (60%)
	There is a variety of play activities	1 (5.6%)	3 (60%)
Inclusion is worse in the junior yard because	Younger autistic pupils are not used to the yard and find it overwhelming.	1 (5.6%)	2 (40%)
	Infants can be very blunt/ unaware/ and might not understand the autistic pupils' difficulties.	3 (16.7%)	0

Table 2. Staff viewpoints on the comparison between inclusion in the junior and senior yard

In an open-ended question about the inclusion of autistic pupils being similar in the junior and senior yard, 66.6% of staff felt that there were significant differences between the senior yard and the junior yard, while 33.3% of staff felt that inclusion was the same in both yards (Table 2). Interview participants thought that inclusion in both yards depended on the age of the autistic child, the level of noise and ball play and the gender of the neurotypical children. They also observed that pupils from the special classes had additional difficulties because of their low level of prior integration and socialisation within the mainstream class. Participant 4 felt that the senior autistic pupils have their own way of managing the yard but that that autistic pupils from junior classes arrive to school from quiet homes where parents are careful to keep noise to a minimum.

Section 2: Enabling authentic inclusion in the yard

Staff viewpoints on adapting the yard to aid peer interactions.

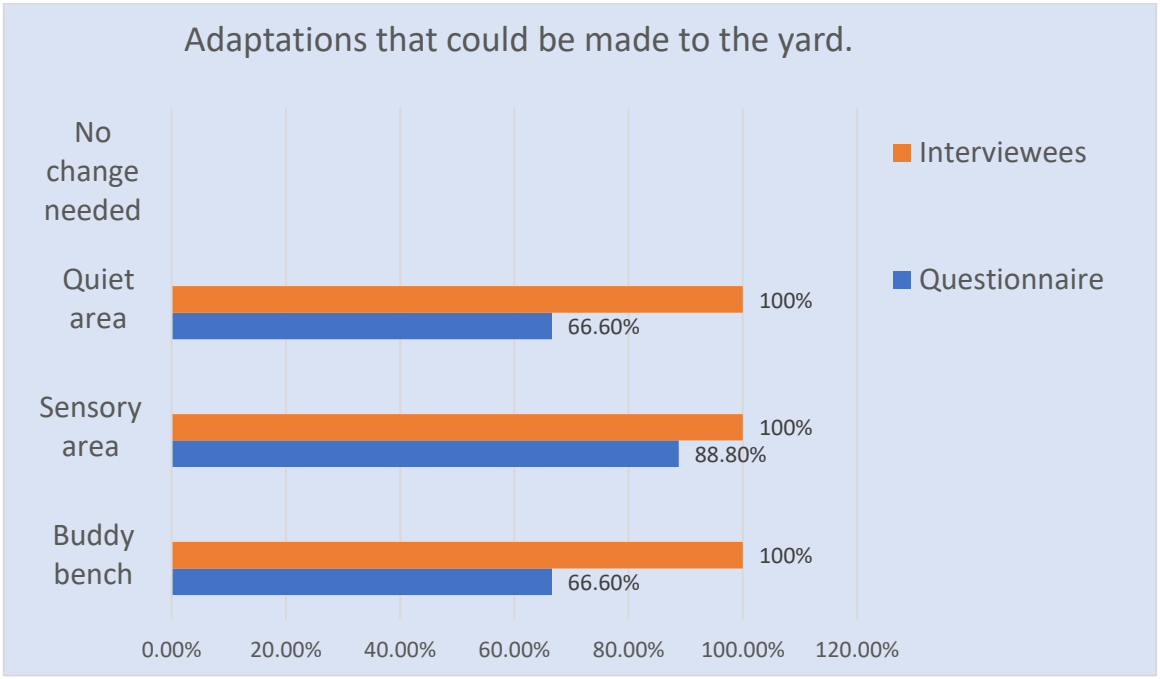

Figure 7. Staff viewpoints on adapting the yard to aid peer interactions.

Responses to the photographic question in the questionnaire asking staff to select appropriate adaptations to the mainstream yard broadly correlated with the interview responses (Figure 7). All questionnaire respondents felt that the yard needed to be adapted or altered. They identified the need for a quiet area, sensory area and a buddy bench and were unanimous that change was necessary. All interviewees specifically mentioned adaptations during the interview. Participant 1 suggested having a quiet or sensory area in which to regulate in, or to just to play with Lego, 'Match Attax' cards, or playdough. A sandpit or water area could be included as well as balls and blocks. Participant 4 noted that 'having a darkened corner with ear-defenders available could also help them to decompress'. Participant 5 felt that autistic pupils ignored small plastic toys and actively sought out leaves and twigs to place in bowls to handle, order and play with, so access to nature would be important.

Strategies identified by staff that could be used to encourage peer interaction

Strategies that could be used to encourage peer interaction		From open ended question in questionnaire	From Interviews
Yard Resources needed (Theme 1)	More play equipment is needed	6 (33.3%)	5 (100%)
	Quiet/board game/ chatting area is needed	5 (27.7%)	4 (80%)
	Access to nature	4 (22.2%)	3 (60%)
	Buddy bench/ friendship seat	6 (33.3%)	5 (100%)
Teaching social communication skills (Theme 2)	Programmes could be used to teach social skills to all pupils	4 (22.2%)	4 (80%)
	Programmes could be used to teach social skills to autistic pupils	6 (33.3%)	3 (60%)
Need for organised support. (Theme 3)	Buddy system/peer support	16 (88.8%)	5 (100%)
	Group/ structured activities (organised by adults)	7 (38.8%)	5 (100%)
	Groups/ structured activities (organised by pupils)	6 (33.3%)	2 (40%)
	Explicitly pre-teaching rules of games to autistic pupils	3 (16.6%)	3 (60%)
Need for autism awareness (Theme 4)	Autism awareness should be taught	7 (38.8%)	5 (100%)
	Rewards/ encouragement for kind play	3 (16.6%)	3 (60%)
A genuine yard integration plan for special class pupils is needed (Theme 5)	Attending the mainstream yard with an SNA should not be the second/ third step in integration of autistic pupils from the special class	0	3 (60%)

Table 3: Strategies and resources identified by staff to encourage interaction between autistic pupils and neurotypical pupils

Strategies which staff identified which could be used to encourage peer interactions are dissected into five themes (Table 3) the need for: i) yard resources, ii) teaching social communication skills, iii) organised support, iv), autism awareness training, and v) a genuine yard integration plan for special class pupils.

Theme 1 identifies the need for additional resources like more appropriate play equipment, a quiet/ sensory area with a 'Drop and Go Library', jigsaws and chalkboards and access to nature. Participant

1 felt that autistic pupils consistently enquired about the length of time left in the yard and that having a visible timer or clock would reduce stress and give pupils a sense of control.

Theme 2 indicates that social communication skills could be taught to all children and that additional time could be given to pupils with autism to revise and over-learn. Participant 2 felt that teaching peer to peer social skills is difficult because autistic pupils seemed 'to gravitate towards adults, so their pupil/ adult communication skills are good but it's the peer-to-peer skills that need most work'. Participant 5 thought that 'Friends programme', scenarios and drama could be taught to all pupils to help with social communication skills with additional time being given to autistic pupils.

Theme 3 identifies the need for organised support through a 'Buddy System or peer support, having structured activities which could be organised by pupils or by adults, and the rules of games could be explicitly pre-taught to autistic pupils. Theme 4 advocates for the need for autism awareness training for pupils so that neurotypical pupils would be accommodating to their autistic peers. Participant 3 felt that Roots of Empathy or LEANS programmes would be very beneficial.

Finally, Theme 5 indicated that there is a need for a genuine plan for the integration of special class pupils into the mainstream school. Interviewees noted that pupils from the special class attend an English or a Maths class and if that is successful, the next step is to attend the mainstream yard to improve their social skills. Once in the mainstream yard, they wander about, move away from the other children into the furthest off areas (out of bounds) or hold an SNA's hand. Participant 5 mentioned that special class pupils are present in the mainstream yard but that is not inclusion. Participant 3 remarked that that when the mainstream teacher goes on day trips/ swimming lessons without including child X (a former classmate newly diagnosed with autism and with a recommendation for a place in the special class) that this has 'broadened the gap socially between him and his friends. It's precluded him from keeping up friendships. He has less in common with his friends now.'

Staff thoughts on the role of peers in fostering inclusion

In this open-ended question, staff outlined several ways in which neurotypical peers could play a role in the inclusion of autistic pupils by having a buddy system/ peer support system, by encouraging their peers to play and by organising inclusive games in the yard (Figure 8).

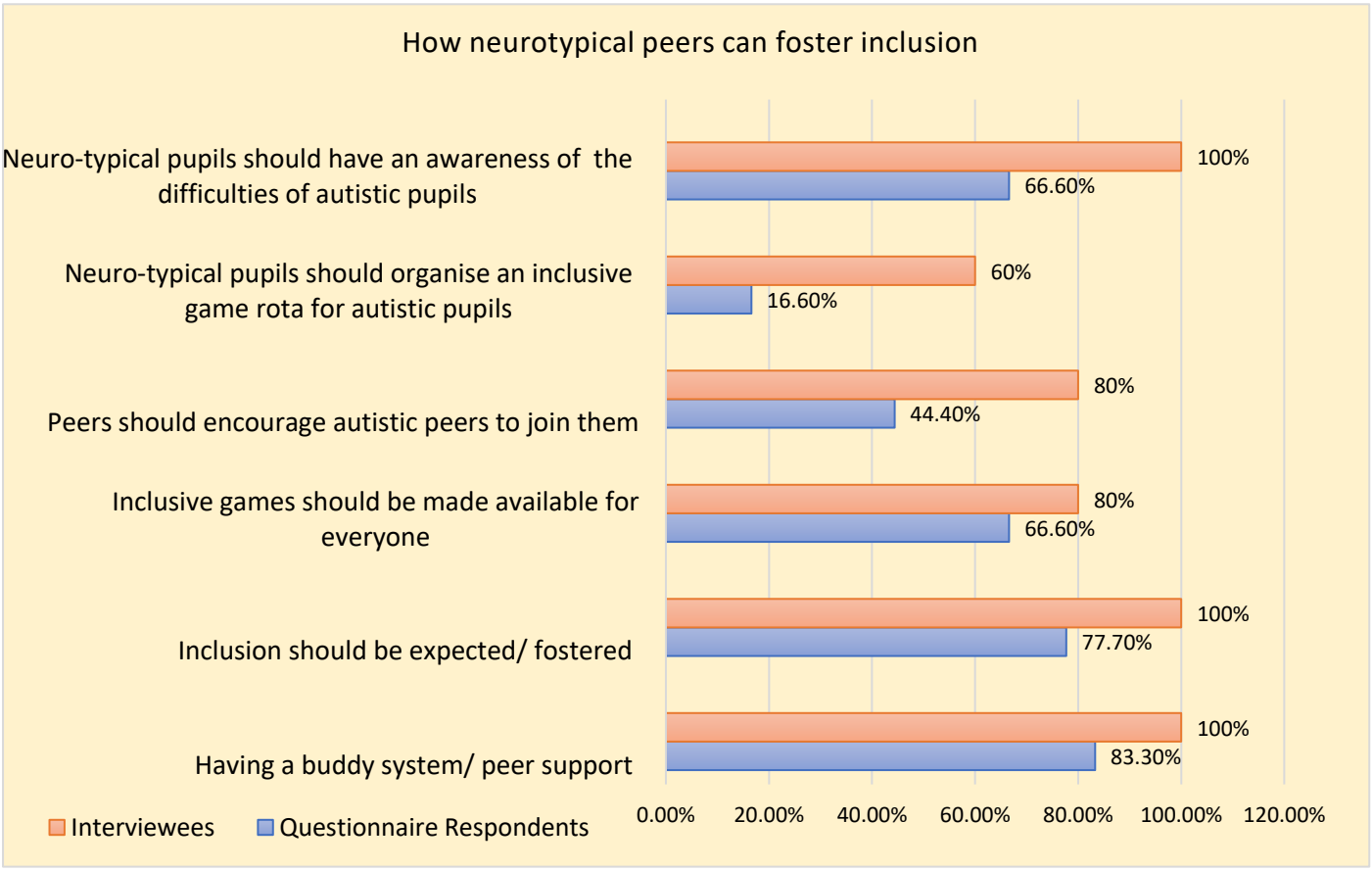

Figure 8. How neurotypical peers can foster inclusion

Staff felt that neurotypical pupils should have an awareness of the difficulties of autistic pupils and inclusion should be expected/ fostered. Participant 1 felt that inclusive games should be organised by staff because a ten minute first break and a twenty-minute second break were too short to insist on neurotypical pupils organising and staying with the same game. Most mainstream pupils move from activity to activity when they get distracted, and this could be upsetting for the autistic pupil who doesn't like change. 'It's a busy time, a short period of time and it's not generally a place to have games with strict rules' (Participant 3).

When probed about peer-to-peer strategies Participant 4 remarked that 'it is difficult to socially engineer situations' while Participant 1 felt that the 'Breakfast Club' was an ideal place for autistic pupils to practice their social skills, because pupils sit down at tables in the order in which they arrive to the kitchen. This gives pupils with autism a new opportunity every day to socialise. Participant 2 observed that the new Primary Language Curriculum places an emphasis on communication skills such as eye contact, gestures and tone of voice which encourages unlikely peers to interact.

Conclusion

Data from the interviews and the open-ended questions in the questionnaire identified strategies which could enhance the inclusion of autistic pupils in the mainstream school yard, and which could be implemented in a cost-effective way. The principal findings described in this chapter encompass the need to: i) change or adapt the structure of the yard to aid sensory regulation, ii) teach additional social emotional competencies to autistic pupils, iii) organise support in the yard (child assisted and peer mediated), iv) provide autism awareness training for all classes and staff, and v) develop a specific yard integration plan for pupils from the autism special class. These themes will be further discussed in the following chapter.

Chapter 5. Discussion

Introduction

This chapter discusses and contextualises the five themes identified from the findings, in relation to the literature, and how they are pertinent to addressing the action research question of 'Improving the inclusion of autistic pupils in the primary school yard', namely: i) the need for changes or adaptions to the yard to aid regulation, ii) the necessity of teaching additional social emotional competencies to autistic pupils, iii) the benefits of organised support in the yard (child assisted and peer mediated), iv) the importance of autism awareness training and, v) the requirement for a mainstream yard integration plan for pupils from the autism special class. The implications for inclusion of each theme are summarised, and staff suggestions of implementable recommendations for change or improvement which could be introduced in the second phase of the participatory action research project, are explored. A final section introduces the limitations and the recommendations for future research arising from the findings of this research project.

Changing or adapting the structure of the yard to aid sensory regulation.

Staff noted that that the existing yard structure and limited-and-limiting equipment in the yard do not give autistic pupils opportunities to self-regulate and de-stress by having 'alone time'. They also noted the reluctance of autistic pupils to continue to play on 'desirable equipment' when mainstream pupils joined them in the yard, which was also acknowledged by Zosh et al. (2018), whereby autistic pupils do not have the same equality and equity of access to playgrounds and schoolyards. Staff reported that autistic pupils covered their ears and complained about noise and the number of pupils running in the yard, while senior pupils were reported to play more ball games exacerbating the noise and busyness of the yard, also noted by Fahy, Delicâte and Lynch (2021) in that the presence of mainstream pupils sometimes interfered with the enjoyment of the yard, and that autistic pupils sought out quieter areas. However, Blake et al. (2018) reported on the value of having neurotypical peers in the yard for autistic pupils to observe, imitate and with whom to engage in parallel play.

Most of the staff agreed that a quiet area for chatting, reading, colouring and board games, and a sensory area with access to a sandpit, water, nature and spinning toys was necessary. Guirguis (2018) noted the importance of self-regulation for play and vice versa, so a quiet area may be

beneficial. Miller et al. (2017) similarly reported that that a sensory-rich area helped pupils to self-regulate leading to better verbalisation and communication. Cox, Loeback and Little (2018) noted that playing with natural elements stimulated pupils' creativity and imaginative play. Staff reported that when autistic pupils played with natural objects like leaves, stones, twigs and flowers (making daisy chains for other pupils) they were engrossed and content. One participant suggested that part of the grass and shrub area next to the yard but separated by a low wall could be repurposed as a wild natural sensory area (Luchs and Fikus, 2013; Czalczynska-Podolska, 2014). Engaging in repetitious activities such as spinning on the spot, swinging arms and walking or running around the circular edge of the astro-turf yard were noted by staff as self-regulatory activities (Fahy, Delicâte and Lynch, 2021). Staff felt that a quiet area and a sensory area could be easily combined in a section of the existing covered shed in the yard. Additional yard equipment with sensory aspects could be purchased to create sensory-friendly zones and giant games like Jenga, blocks and large soft balls could be mandated as sharing toys, reflecting Couper, Sutherland and van Bysterveldt (2013) study which advocated for the use of wheeled toys that needed two children to keep them moving to encourage pupils to play and chat together. Recognising the propensity for autistic pupils to stand back and watch, one interviewee advocated that if there wasn't sufficient games and toys available for everyone; a class rota could be organised so autistic pupils didn't have to compete with neurotypical pupils for access to equipment.

Staff also suggested that a concerted and positive effort to promote friendship and camaraderie among pupils and autistic pupils should be encouraged and supported (Kendrick, Jutengren and Stattin, 2012). There was unanimous support for the use of a 'Buddy Bench' in the yard with some interviewees suggesting that a regular garden bench could be repurposed as a 'Buddy Bench' with an overhead placard. Although Martin and Milton (2017) supported the use of 'Buddy systems' which benefits autistic pupils by creating a co-operative atmosphere in class, they warn against coercing 'people into false friendships' (p.121). One staff member also highlighted the reassurance that an unobtrusively installed visible clock or sand timer could give autistic pupils to reduce stress levels and to give them a sense of control also advocated for by Martin et al. (2019). Modifying the yard to become more inclusive aligns with the social relational understanding of disability by removing the 'barrier to doing' in the environment to address the 'barrier to being' and negating the 'impairment effect' of disability as outlined by Thomas (2004).

Teaching social emotional competencies to autistic pupils

Staff felt that to achieve the genuine inclusion of autistic pupils in the yard all pupils needed to acquire inclusive social and emotional competencies. Milton et al. (2018) reported that neuro-diverse and neurotypical people lacked an understanding of each other's communication styles and that, understanding and empathy were at the foundation of remedying and repairing the effects of 'double empathy'. Similarly, staff viewpoints reflect the findings of Harvey (2018) that alternative communication styles are differences and since the impairment is societal, everyone needs to adapt. The abhorrence of a deficit-focused approach which is disrespectful towards the autistic person was also reflected by the interviewees who advocated for a neurodiversity informed approach (Leadbetter et al., 2021).

Some staff indicated that autistic pupils could benefit from partaking in social emotional learning in class and child-assisted strategies, which could be applied to the yard. Strategies included the provision of additional teaching and guidance to navigate the complex social dynamics of the schoolyard, and strategies to navigate social interactions to reduce autistic pupils' feelings of isolation, exclusion, or anxiety. Friendship skills such as sharing, taking turns, and listening have a significant role in social emotional learning, in addition to engagement in leisure activities, play skills and special interests reflecting observations from Fletcher-Watson and Happé (2019). Among the difficulties for autistic pupils identified by staff were difficulties with initiating and maintaining conversation and play, not understanding rules or having an overly fixed idea of the implementation of the rules. Yavuz, Selçuk and Korkmaz (2019) maintained that through using teacher interventions and child assisted strategies; an improvement in non-verbal skills might contribute to better friendship and reciprocity among autistic and non-autistic pupils.

Staff noted that the Friends' Programme which is currently offered in an ad-hoc fashion in school could be extended as a whole school approach to ensure that all classes benefit. This reflects findings from Dervan, Egan and Ring (2023) who recommended the use of evidence-based practices which are realistic and achievable in natural settings. According to Burke, Prendeville, and Veale (2017) the 'Friends Programme' is invaluable for teaching social emotional learning because pupils with autism became 'more aware of their shared interests as friendships became generalised outside of the group based on common interest such as computer gaming' (p. 444). Additional time could be spent on exploring what friendship looks like for autistic pupils considering Chang, Shih

and Kasari (2016) findings that autistic pupils did not identify reciprocal friendships. Staff also identified that the 'School Breakfast Club' presented autistic and non-autistic pupils with an ideal opportunity to practice and develop social skills acquired from social emotional learning in a natural and supportive environment, to learn from positive role models, and to experience a sense of belonging. This reiterates Jose et al. (2020) findings that a 'School Breakfast Club' enhances social interaction and builds connections. Pupils learn cooperative skills when sharing food, cleaning up, and have improved manners.

According to staff, bullying was not considered an issue in the school which is contrary to the findings of Rowley et al. (2012) on the vulnerability of autistic pupils in the mainstream yard. Although results from a study on risk factors and victimisation of autistic pupils by Chiu et al. (2018) reported that 72% of parents felt that their children were isolated, staff interviews indicated that isolation can be nuanced because it is impossible to ascertain if autistic pupils are choosing to play and walk around on their own, or whether they feel excluded. Chamberlain, Kasari and Rotherham-Fuller (2007) also felt that autistic pupils lack of self-awareness or interest in solitary activities could be perceived as loneliness. One staff member felt that the perceived isolation of autistic pupils in the yard could be investigated to evaluate whether it was the special classes' autistic pupils' choice or wish to integrate into the mainstream yard. Fahy, Delicâte and Lynch (2021) noted that on some school days 'playing with mainstream children may not be the preference for the children with autism' (p. 122)

Facilitating organised support in the yard (child assisted and peer mediated)

Staff felt that by incorporating the child assisted strategies which are learnt in the classroom and practiced in the 'Breakfast Club' and elsewhere, autistic pupils have a template for socialisation in the yard. Staff observed that some autistic pupils' preference for adult company may result from a need for familiarity and security particularly in the junior yard (Bauminger-Zviely and Agam-Ben-Artzi, 2014). Even though Gilmore et al. (2019) stressed the importance of intervening and supporting autistic pupils in the yard, staff felt that it might be counter-productive if the supporting staff member is viewed as a playmate by the younger autistic pupils, and the adult interference and attention which comes from including a pupil with autism is unwelcomed by senior neurotypical pupils. Participant 3 felt that addressing difficulties with social emotional competencies through using evidenced-based social and emotional learning was of little benefit if autistic pupils are not

supported adequately with child assisted strategies in the yard, particularly around appropriate conflict resolution and the perception of rules and fair play (Gilmore et al., 2019).

Acknowledging that peer mediation was deemed superior to child-assisted interventions (Kasari et al., 2012), a suggested best option to maintain newly acquired child assisted and peer mediated strategies and skills across the school, would be to train and regularly upskill all staff who are in contact with autistic pupils (Kretzmann, Shih and Kasari, 2015). A short-term option suggested by Participant 5 would be to set up one peer mediation group of five pupils in each class upwards from second class, so that all senior autistic pupils would benefit immediately, negating the need for adult involvement. The long-term plan could be to extend peer mediation to all pupils in second class (one group at a time). Within five years, all pupils from second class upwards would have an awareness of peer mediation and inclusion. Interviewees highlighted the importance of using SNAs as a resource, due to their presence in the yard at every break, but with training and ongoing staff support (Dervan, Egan and Ring, 2024).

Autism awareness training

Data from the open-ended questions in the survey yielded very interesting findings which reflected some of the observations made by the five staff who self-selected for interview; specifically 66% of staff and 100% of the interviewees advocated for the need for autism awareness training for pupils and felt that inclusion should be expected and fostered. Staff mentioned the 'Learning About Neurodiversity at School' (LEANS) programme which is evidenced based and increases positive attitudes towards neurodiversity (Alcorn et al., 2023). Another suggestion from staff was the 'Roots of Empathy' programme (Gordon, 2000). However, using a cluster randomised controlled trial and evaluation, Connolly et al. (2018) reported that following the 'Roots of Empathy' programme, there was an improvement in pupils' behaviour, but it was not accompanied by a noticeable change in pupils' levels of empathy or their ability to recognise emotions in others. The 'Together Towards Inclusion' (2007) programme was specifically mentioned in the Autism Innovation Strategy (2024) and will be supported by the Department of Education and Science (DES) and the NCSE will receive funding to coordinate and evaluate the programme.

Some staff also felt that neurotypical pupils could organise an inclusive game rota for their autistic peers while a significant number of staff felt that inclusive games and a buddy system or peer support should be available to everyone and that pupils should be rewarded for their

encouragement and inclusion of their autistic peers. In the school context of this action research project, it is difficult for staff to establish a rapport, support autistic pupils or use consistent strategies since teachers supervise once or twice a week in the mainstream yard which may further exacerbate the challenges for autistic pupils in navigating social and sensory environments effectively

Similarly, autism awareness training should also be made available to every staff member as 56% of staff were only 'somewhat confident' in their ability to support and understand autistic pupils, despite having worked with autistic pupils for more than three years. This may be due to lack of training or CPD, particularly when 50% of staff responded that they have not had any autism training at all and 22% have benefitted from occasional webinars. Including the training information of five questionnaire respondents who were eliminated from the data because they did not have three years of experience of working with autistic pupils, the percentage of respondents in the school who have not received any training at all is 61%. Barry et al. (2021) in a qualitative study in an Irish school reported that autism special class teachers had significantly more CPD which correlated with a high usage of evidenced based practices, in comparison to mainstream class teachers who having little or no autism training, used very few evidenced based practices despite having autistic pupils in their classes. They advocated instilling confidence in mainstream teachers by offering timely appropriate CPD, access and support from allied professionals and mentoring from SETs. Lake and Wendland (2018) advocated benefitting from the use of and regular upskilling of change agents (in the school context; teachers and SNAS) who have the ability, presence and flexibility to address the challenges in a collaborative manner (Kretzmann, Shih and Kasari, 2015). The rigid adherence of pupils with autism to rules was noted by staff, so training in conflict resolution could also be beneficial (Gilmore et al., 2019). The Autism Innovation Strategy (2024) states that the DES will continue to work with the Middletown Centre for Autism to enable families and teaching professionals to avail of training to enable a neuro-affirmative and inclusive education system.

Designing a specific yard integration plan for pupils from the autism special classes.

Participants in the interviews identified the anomaly of integrating pupils from the autism special classes into the mainstream yard. To date, the inclusion of these pupils has been randomly

organised because special class teachers and mainstream class teachers jointly plan appropriate subject areas for the integration of special class pupils into a mainstream class. Integrating those pupils into the mainstream yard is often the automatic next step without considering the autistic pupil's readiness. However, both the class teacher and the special class teacher have a limited awareness of the autistic pupil's reaction or their behaviour in the mainstream yard because the break and the yard falls outside of areas of responsibility for both. The teacher on supervisory duty in the yard is responsible for all the pupils in the yard and there are ten different teachers supervising each week on rotation. The need for an integration plan would require whole school planning because special class pupils integrate into most class levels, so an overarching plan which can adapt to the needs of individual autistic pupils is necessary.

Interviewees outlined some prerequisites necessary for effective and genuine inclusion such as special class pupils not attending the mainstream yard unless there was a certainty that i) the autistic pupil was familiar with the mainstream pupils in the class and had already spent more than an hour a day in class with them, ii) the autistic pupil had previously played in the yard many times with a few mainstream class members and was familiar with the toys, games, equipment and yard rules, iii) the autistic pupil had become familiar with the yard through the use of 'social stories' following Gray's specific guidelines (Golzari, Hemati Alamdarloo and Moradi, 2015), iv) autistic pupils would benefit from being in the mainstream yard and would not feel uncomfortable and v) the autistic pupil would be guaranteed engagement in an agreed activity or had a buddy with whom to play with or run around with. Initially, autistic pupils from the special classes should only be included in the mainstream yard for ten minutes daily and the amount of time could increase as pupils gained confidence. Inclusion of special class autistic pupils in the mainstream yard needs to be planned and regularly reviewed to ensure that integration during yard time is in the best interests of each individual autistic pupil.

Recommendations for future research

New phases of the participatory action research project

Since the ultimate ownership of the research of an action research project remains with the collaborators and not the researcher (Brydon-Miller, 2020), the staff will be informed of the findings

and consulted on the next phase of the project. Using the knowledge generated collaboratively in the action research project to transform and reform the current situation (Kivunja and Kuyini, 2017), the five themes identified in the first phase of the participatory research project could be addressed in two further phases. Without the constraints of GDPR and the research guidelines within this project, consultation with autistic and neurotypical pupils can be included.

Phase 2: adapting the physical layout of the yard in a cost neutral manner

The first and immediate priority would be to change the physical layout of the yard to include a quiet/ sensory area and to incorporate nature into the yard by giving pupils access to the shrubbery area which has been heretofore out of bounds for all pupils. The 'TOPO-32 for Field Observations of Outdoor Play' (Loeback and Cox, 2020) could be used to assess and evaluate how best to improve the yard and staff could be consulted on their insight on the restructuring of the yard (Figure 9) and the purchase of appropriate equipment and toys.

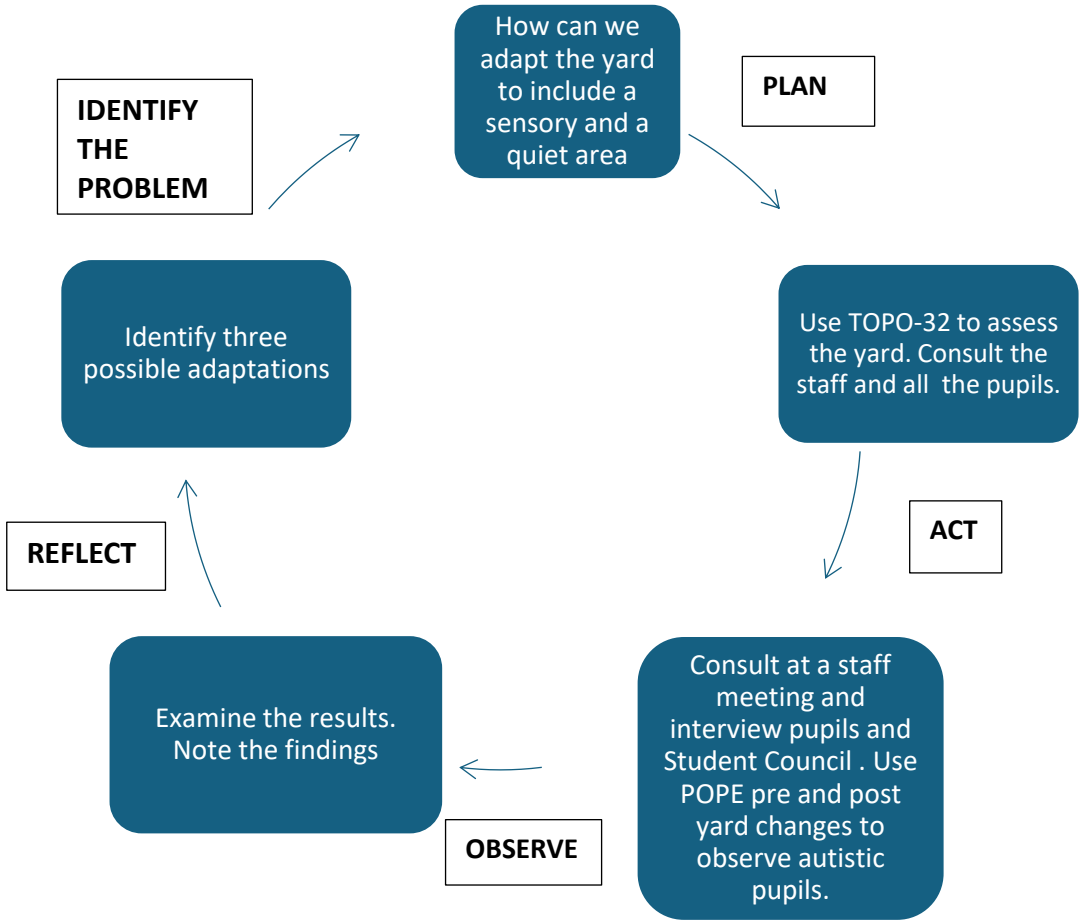

Figure 9. Consultation on the siting of a sensory/ quiet area and nature in the yard (phase 2a)

The second priority would be the identification of agreed and appropriate autism awareness programmes for staff and pupils. The Autism Innovation Strategy (2024) has indicated that the 'Together Towards Inclusion' (2007) programme is to be funded and facilitated. This programme could be implemented and brought to the attention of and made available to all parents through the school's parents' council by the Home School Community Liaison Officer. A concerted effort to promote autism CPD is necessary to redress the lack of staff training in autism

A third priority would be a consultation with autistic pupils, neurotypical pupils and staff on the purchase of suitable equipment for the yard, with the associated conversations around equality and equity of access to the equipment by autistic pupils in the yard (Figure 10). Prior to implementing any changes in the yard, it may be possible to do the POPE assessment pre- and post-adaptation of the yard to evaluate if the changes were beneficial for autistic pupils

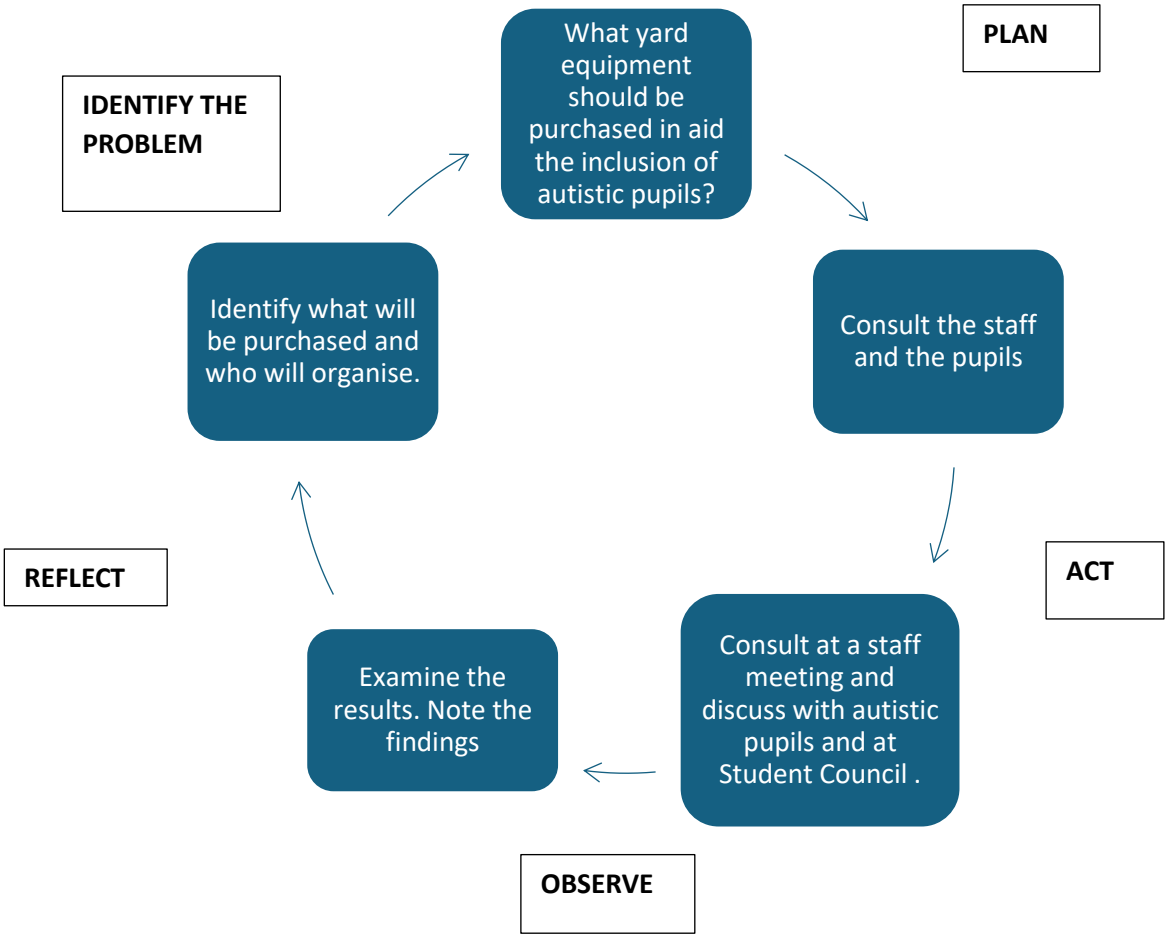

Figure 10. Consultation to purchase inclusive yard equipment (phase 2b)

Phase 3: formulating a mainstream yard integration plan for autistic pupils in the autism special classes through consultation.

The third phase would be to consult relevant autistic pupils, parents and all staff to formulate a plan for the integration of pupils from the autism special classes into the mainstream yard with specific criteria for evaluating their suitability, readiness and regulation levels on a day-by-day basis with an alternative plan for days when inclusion in the mainstream yard might not be in the best interests of the pupil. Based on staff observation of some autistic pupils' need for alone-time and quiet, it could be interesting and informative to organise an informal consultation with autistic pupils on their perception of isolation and aloneness in the yard which parents negatively reported (Chiu et al., 2018).

Limitations of this study

Since this participatory action research project was carried out in a DEIS Band 1 urban school, it may not reflect inclusion in the yards of DEIS Band 1 rural schools, which are likely to have more access to nature and bigger yards. Similarly, a comparison with non DEIS schools could give different and more nuanced results. Although the results of the five semi-structured interviews were triangulated, and correlated with the results from the eighteen questionnaires, autistic pupils were not consulted which limits the veracity of the findings. The Playground Observation of Peer Engagement (POPE*)* assessment could also have been used to triangulate the observations of the teachers by measuring the autistic pupils' behaviour in the yard.

This study has incidentally highlighted the case of special class pupils in the mainstream yard but during inclement weather, these pupils remain in the mainstream classroom and since there are ten different teachers weekly on a supervisory rotation, the experience of these pupils is unknown and could be considered in another study. The study did not consider whether pupils from the autism special classes reacted, integrated or behaved any differently in their own special class yard than in the mainstream yard. A comparison between the experiences of pupils from the autism special class in their own yard and in the mainstream yard could be explored. The project did not consider whether mainstream autistic pupils would choose to go to the mainstream yard considering staff perceptions that 50% of autistic pupils never enjoyed the yard and 39% sometimes enjoyed the yard in light of Zablotsky et al. (2014) findings that autistic mainstream pupils were more likely to be bullied than special class autistic pupils. The autistic pupils' voice is paramount in any future discussions around inclusion in the yard.

Conclusion and recommendations from the findings of the first phase of the participatory action research project

The project was focused on capturing the perspectives of staff using questionnaires and semi-structured interviews to improve the inclusion of autistic pupils in the mainstream school yard because to date, research on evidence- based inclusive strategies has taken place in clinics or in offsite settings and not in classrooms or in school yards (Dervan, Egan and Ring, 2024). The research project gained an insight from the perspective of school staff into the current inclusion of autistic

pupils in the yard, the identification of suitable strategies and adaptations to instigate changes to effect equity and to promote inclusive access in the school yard.

The recommendations from this study on the inclusion of autistic pupils in the mainstream yard includes: i) sensory-friendly and/or quiet spaces and access to nature within the school yard are needed to accommodate the sensory needs of students with autism, ii) opportunities for pupils with autism to engage in social interactions and to develop their social skills through structured activities and peer mediated programs in the school yard needs to be provided and facilitated, while also addressing any specific challenges autistic pupils may face through the use of child assisted strategies, iii) peer buddy systems are needed to promote peer interactions and friendships between pupils with autism and their neurotypical peers in the school yard, iv) training and awareness programme for both pupils and staff are needed to increase the understanding and acceptance of autism, fostering of empathy and the promotion of positive interactions and, v) a holistic yard integration plan for pupils from the autism special classes to integrate into the mainstream yard in a caring and facilitating manner which places the needs of the autistic pupil at its centre is necessary.

The implementation of any recommendations should be conducted in consultation with staff, autistic pupils and neurotypical pupils following an awareness programme, and should be regularly assessed to ensure the effectiveness of inclusion efforts and support strategies in the school yard. Strategies should be adapted as needed to ensure the ongoing success and well-being of students with autism. The overarching conclusion is that a school culture which values diversity and promotes and facilitates the inclusion of autistic pupils needs to be advocated for, supported and enabled to ensure that autistic pupils feel safe, welcomed and included in the school yard. As described above, further research phases can enhance this current project and contribute substantially to the literature.

References

Al-Ababneh, M. (2020) 'Linking ontology, epistemology and research methodology', *Science & philosophy*, 8(1), pp.75-91. [Online] Available at: http://eiris.it/ojs/index.php/scienceandphilosophy/article/viewFile/500/732. (Accessed: 27 March 2024)

Alcorn, A.M., McGeown, S., Mandy, W., Aitken, D. and Fletcher-Watson, S. (2023) *Learning about Neurodiversity at School (LEANS): Evaluation of the LEANS resource pack in mainstream primary schools.* [Online] Available at: https://osf.io/fhc2k/download (Accessed: 21 March 2024)

American Psychiatric Association (2013) *DSM-5® handbook of differential diagnosis*. American Psychiatric Pub.

AsIAm (2024) AsIAm [Online] Available at: https://asiam.ie/ (Accessed: 24 August 2024)

Autism Level Up (2024) [Online] Available at: Autism Level UP!. (Accessed: 26 August 2024)

Barry, L., Holloway, J., Gallagher, S. and McMahon, J. (2021) 'Teacher characteristics, knowledge and use of evidence-based practices in autism education in Ireland' *Journal of Autism and Developmental Disorders*, pp.1-11. [Online] Available at: https://link.springer.com/content/pdf/10.1007/s10803-021-05223-1.pdf (Accessed: 20 July 2024)

Batten, A. (2005) 'Inclusion and the autism spectrum', *Improving schools*, *8*(1), pp.93-96. [Online] Available at: https://journals.sagepub.com/doi/epdf/10.1177/1365480205049341 (Accessed: 14 March 2024)

Bauminger-Zviely, N. and Agam-Ben-Artzi, G. (2014) 'Young friendship in HFASD and typical development: Friend versus non-friend comparisons', *Journal of autism and developmental disorders,* 44, pp.1733-1748.

Blake, A., Sexton, J., Lynch, H., Moore, A. and Coughlan, M. (2018) 'An exploration of the outdoor play experiences of preschool children with autism spectrum disorder', *In an Irish preschool setting'. today's children are tomorrow's parents*. [Online] Available at: https://www.researchgate.net/profile/Helen-Lynch-3/publication/323656551_AN_EXPLORATION_OF_THE_OUTDOOR_PLAY_EXPERIENCES_OF_PRESCHOOL_CHILDREN_WITH_AUTISM_SPECTRUM_DISORDER_IN_AN_IRISH_PRESCHOOL_SETTING/links/5aa24acf45851543e63bc4d8/AN-EXPLORATION-OF-THE-OUTDOOR-PLAY-EXPERIENCES-OF-PRESCHOOL-CHILDREN-WITH-AUTISM-SPECTRUM-DISORDER-IN-AN-IRISH-PRESCHOOL-SETTING.pdf#page=102 (Accessed 24 May 2024)

Braun, V. and Clarke, V. (2023) 'Toward good practice in thematic analysis: Avoiding common problems and be (com) ing a knowing researcher', *International Journal of Transgender Health,* 24(1), pp.1-6. [Online] Available at: https://www.tandfonline.com/doi/pdf/10.1080/26895269.2022.2129597 (Accessed: 04 March 2024)

British Educational Research Association (2018) *Ethical guidelines for educational research*, fourth edition (2018)

Brydon-Miller, M., Kral, M. & Ortiz Aragón, A. (2020) 'Participatory action research: international perspectives and practices'. *International review of qualitative research*, 13(2), 103-111. [Online] Available at: https://doi.org/10.1177/1940844720933225 (Accessed: 01 April 2024)

Burke, M.K., Prendeville, P. and Veale, A. (2017) 'An evaluation of the "FRIENDS for Life" programme among children presenting with autism spectrum disorder', *Educational psychology in practice,* 33(4), pp.435-449. [Online] Available at: https://www.tandfonline.com/doi/full/10.1080/02667363.2017.1367648?needAccess=true (Accessed: 14 May 2024)

Carpenter, Happe and Egerton (2019) Girls and autism: educational, family and personal perspectives, Routledge

Chamberlain, B., Kasari, C. and Rotheram-Fuller, E. (2007*)* 'Involvement or isolation? the social networks of children with autism in regular classrooms'*, Journal of autism and developmental disorders,* 37, pp.230-242. [Online] Available at: https://www.researchgate.net/profile/Erin-Rotheram-Fuller/publication/6929747_Involvement_or_Isolation_The_Social_Networks_of_Children_with_Autism_in_Regular_Classrooms/links/0fcfd50b7c4b708029000000/Involvement-or-Isolation-The-Social-Networks-of-Children-with-Autism-in-Regular-Classrooms.pdf (Accessed: 14 March 2024)

Chang, Y.C., Shih, W. and Kasari, C. (2016) 'Friendships in preschool children with autism spectrum disorder: What holds them back, child characteristics or teacher behavior?', *Autism*, 20(1), pp.65-74. [Online] Available at: https://www.researchgate.net/profile/Ya-Chih-Chang/publication/272516295_Friendships_in_preschool_children_with_autism_spectrum_disorder_What_holds_them_back_child_characteristics_or_teacher_behavior/links/5589f5b208ae273b2876e013/Friendships-in-preschool-children-with-autism-spectrum-disorder-What-holds-them-back-child-characteristics-or-teacher-behavior.pdf

Chiu, Y. L., Kao, S., Tou, S. W., & Lin, F. G. (2018) 'Effects of heterogeneous risk factors on psychological distress in adolescents with autism and victimization experiences in Taiwan', *Disability and rehabilitation*, *40*(1), 42–51. [Online] Available at: https://doi.org/10.1080/09638288.2016.1242173 (accessed 24 February 2024)

Connolly, P., Miller, S., Kee, F., Sloan, S., Gildea, A., McIntosh, E. and Bland, J.M. (2018) 'A cluster randomised controlled trial and evaluation and cost-effectiveness analysis of the Roots of Empathy schools-based programme for improving social and emotional well-being outcomes among 8-to 9-year-olds in Northern Ireland'*. Public health research*, *6*(4). [Online] Available at: https://pure.york.ac.uk/portal/files/54416126/Connolly2018_1_.pdf (Accessed: 12 July 2024)

Couper, L., Sutherland, D., and van Bysterveldt, A. (2013) 'Children with autism spectrum disorder in the mainstream playground', *Kairaranga*, *14*(1), pp.25-31. [Online] Available at: https://files.eric.ed.gov/fulltext/EJ101 1406.pdf (Accessed: 25 February 2024)

Cox, A.; Loebach, J.; Little, S. (2018) 'Understanding the nature play milieu: using behavior mapping to investigate children's activities in outdoor play spaces'*, Youth Environ.,* 2018, 28, 232–261. [Online] Available at: https://doi.org/10.7721/chilyoutenvi.28.2.0232 (Accessed: 09 March 2024)

Creswell. J.W. and Creswell, J.D. (2017) *Research design: qualitative, quantitative, and mixed methods approaches*. 4th Edition, Sage, Newbury Park.

Czalczynska-Podolska, M. (2014) 'The impact of playground spatial features on children's play and activity forms: An evaluation of contemporary playgrounds' play and social value'*, Journal of environmental psychology*, *38*, pp.132-142. [Online] Available at: https://www.sciencedirect.com/science/article/abs/pii/S0272494414000097 (Accessed: 09 March 2024)

Dervan, M., Egan, M. and Ring, E. (2023) 'Findings from a systematic literature review of evidence-based practices used in school settings to support autistic students with social communication competency', *In Conference proceedings. the future of education 2023.* [Online] Available at: https://conference.pixel-online.net/files/foe/ed0013/FP/7922-NEED6094-FP-FOE13.pdf (Accessed: 24 February 2024)

Dervan, M., Egan, M. and Ring, E. (2024) 'The supportive role of peers in realising an inclusive school system for neuro-diverse learners', in *LEARN, The Journal of the Irish Learning Support Organisation clg (Vol. 45, pp. 28-41).*

Ejnavarzala, H. (2019) 'Epistemology–ontology relations in social research: A review', *Sociological Bulletin,* 68(1), pp. 94–104. [Online] Available at: https://journals.sagepub.com/doi/full/10.1177/0038022918819369 (Accessed:27 March 2024)

Emerson, R.W. (2021) 'Convenience sampling revisited: Embracing its limitations through thoughtful study design*', Journal of Visual Impairment & Blindness*, *115*(1), pp.76-77. [Online] Available at: https://doi.org/10.1177/0145482X20987707 (Accessed: 18 August 2024)

Fahy, S., Delicâte, N. and Lynch, H. (2021) 'Now, being, occupational: Outdoor play and children with autism*', Journal of occupational science*, *28*(1), pp.114-132. [Online] Available at: https://www.tandfonline.com/doi/full/10.1080/14427591.2020.1816207 (Accessed: 03 February 2024)

Fletcher-Watson, S., Adams, J., Brook, K., Charman, T., Crane, L., Cusack, J., Leekam, S., Milton, D., Parr, J.R. and Pellicano, E. (2019) *'Making the future together: Shaping autism research through meaningful participation', Autism*, *23*(4), pp.943-953 [Online] Available at: https://journals.sagepub.com/doi/pdf/10.1177/1362361318786721 (Accessed: 28 September 2024)

Folkes, L. (2023) 'Moving beyond 'shopping list' positionality: Using kitchen table reflexivity and in/visible tools to develop reflexive qualitative research', *Qualitative research*, 23(5), pp.1301-1318. [Online] Available at: https://eprints.glos.ac.uk/11093/3/10.1177/10.1177/ (Accessed: 23 September 2024)

Frost, J.L. (1992) *Playground development guidelines for school systems*. [Online] Available at: https://files.eric.ed.gov/fulltext/ED353082.pdf (Accessed: 09 March 2024)

Gilmore, S., Frederick, L.K., Santillan, L. and Locke, J. (2019) 'The games they play: Observations of children with autism spectrum disorder on the school playground*', Autism,* 23(6), pp.1343-1353. [Online] Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6509020/ (Accessed: 12 February 2024)

Golzari, F, Hemati Alamdarloo, G and Moradi, S. (2015) 'The effect of a social stories intervention on the social skills of male students with autism spectrum disorder', *SAGE Open, 5.* doi:10.1177/2158244015621599. [Online] Available at: https://doaj.org/article/06b731114d2f4d5da0d59b0919d3029b (Accessed: 11 July 2024)

Gordon, M. (2000) Roots of empathy, [Online] Available at: http://www.rootsofempathy.org/ (Accessed: 09 August 2024)

Government of Ireland (2004) *The Education of Persons with Special Educational Needs Act* [Online] Available at: https://www.irishstatutebook.ie/eli/2004/act/30/enacted/en/html (Accessed 03 March 2024)

Guirguis, R. (2018) 'Should we let them play? three key benefits of play to improve early childhood programs', *International Journal of education and practice*, *6*(1), pp.43-49. [Online] Available at: https://files.eric.ed.gov/fulltext/EJ1209975.pdf (Accessed 03 March 2024)

Harvey, C. (2018) *Difference Not disorder: understanding autism theory in practice*. London: Jessica Kingsley Publishers. [Online] Available at: https://web.p.ebscohost.com/ehost/ebookviewer/ebook/bmxlYmtfXzE2NTE5MjFfX0FO0?sid=55861c62-df21-4ffd-9014-974555e6a946@redis&vid=0&format=EB&rid=1 (Accessed: 20 February 2024).

Hatch, J.A. (2023) *Doing qualitative research in education settings*. State University of New York press.

Irani, M.A.Z. (2023) *Teachers' perspectives on play as a teaching method in early childhood education* (Doctoral dissertation, Miami University). [Online] Available at: https://etd.ohiolink.edu/acprod/odb_etd/ws/send_file/send?accession=miami1699806556309207&disposition=inline (Accessed: 03/ March 2024)

Ireland. Department of Education and Science (2018) *Estimating prevalence of autism spectrum disorders (asd) in the Irish population: a review of data sources and epidemiological studies* [Online] Available at: https://www.gov.ie/pdf/?file=https://assets.gov.ie/10707/ce1ca48714424c0ba4bb4c0ae2e510b2.pdf#page=null (Accessed 26 May 2024)

Ireland. Department of Education (2022) *autism good practice: guidance for schools: supporting children and young people;* Dublin, Department of Education and Skills. [Online] Available at: https://www.gov.ie/pdf/?file=https://assets.gov.ie/246065/ca72e39e-e657-4d3d-82ed-83e1d0122c8f.pdf#page=null (Accessed 26 August 2024)

Ireland. Department of Children, Equality, Disability, Integration and Youth (2024) *Autism Innovation Strategy*. Department of Children, Equality, Disability, Integration and Youth. [Online] Available at: https://www.gov.ie/en/publication/c5835-autism-innovation-strategy/ (Accessed 26 August 2024)

Jose, K., MacDonald, F., Vandenberg, M., Williams, J., Abbott-Chapman, J., Venn, A. and Smith, K.J. (2020) 'School breakfast club programs in Australian primary schools, not just addressing food insecurity: a qualitative study', *Health Education & Behavior, 47*(4), pp.619-630. [Online] Available at: https://figshare.utas.edu.au/articles/journal_contribution/School_breakfast_club_programs_in_Australian_primary_schools_not_just_addressing_food_insecurity_a_qualitative_study/22989002/1/files/40736672.pdf (Accessed 6 July 2024)

Kallio, H., Pietilä, A.M., Johnson, M. and Kangasniemi, M. (2016) 'Systematic methodological review: developing a framework for a qualitative semi-structured interview guide', *Journal of advanced Nursing, 72*(12), pp.2954-2965. [Online] Available at: https://salford-repository.worktribe.com/preview/1493992/jan13031%20Martin%20Johnson%20June%202016.pdf (Accessed 22 April 2024)

Kasuri C, Rotheram-Fuller, Locke J. (2005) *The development of the Playground Observation of Peer Engagement (POPE) Measure*. Los Angeles, CA: University of California Los Angeles. (Unpublished Manuscript)

Kasari, C., Rotheram-Fuller, E., Locke, J. and Gulsrud, A. (2012) 'Making the connection: Randomized controlled trial of social skills at school for children with autism spectrum disorders', *Journal of child psychology and psychiatry*, *53*(4), pp.431-439. [Online] Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3238795/ (Accessed 24 March 2024)

Kendrick, K., Jutengren, G. and Stattin, H. (2012) ,The protective role of supportive friends against bullying perpetration and victimization*', Journal of adolescence*, *35*(4), pp.1069-1080.
Kretzmann, M., Shih, W. and Kasari, C. (2015) 'Improving peer engagement of children with autism on the school playground: A randomized controlled trial', *Behavior Therapy*, *46*(1), pp.20-28. [Online] Available at: https://depts.washington.edu/uwautism/wp-content/uploads/2016 January Kretzmann-2014.pdf (Accessed: 02 April 2024)

Kivunja, C. and Kuyini, A.B. (2017) 'Understanding and applying research paradigms in educational contexts'*, International Journal of higher education, 6*(5), pp.26-41. [Online] Available at: https://www.sciedu.ca/journal/index.php/ijhe/article/view/12169/7683 (Accessed: 27 March 2024)

Lake, D. and Wendland, J. (2018) 'Practical, epistemological, and ethical challenges of participatory action research: A cross-disciplinary review of the literature'*, Journal of higher education outreach*

and engagement, *22(3*), pp.11-42. [Online] Available at: https://ojs01.galib.uga.edu/jheoe/article/download/1399/1396 Accessed: 27 March 2024*)*

Lam, Y.G. and Yeung, S.S.S. (2012) 'Cognitive deficits and symbolic play in preschoolers with autism', *Research in autism spectrum disorders*, *6*(1), pp.560-564. [Online] Available at: https://www.academia.edu/download/6997452/cognitive%20deficits%20and%20symbolic%20play.pdf (Accessed 20 February 2024)

Langdridge, D. and Hagger-Johnson, G. (2009) *Introduction to research methods and data analysis in psychology*. Pearson Education.

Leadbitter, K., Buckle, K.L., Ellis, C. and Dekker, M. (2021) 'Autistic self-advocacy and the neurodiversity movement: Implications for autism early intervention research and practice', *Frontiers in psychology*, 12, p.635690. [Online] Available at: https://www.researchgate.net/profile/Ravindra-Kushwaha2/publication/382887467_Ethical_Frameworks_in_Special_Education/links/66b1c2e12361f42f23b572d9/Ethical-Frameworks-in-Special-Education.pdf#page=70 (Accessed 20 February 2024)

Loebach, J. and Cox, A. (2020) 'Tool for observing play outdoors (TOPO): A new typology for capturing children's play behaviors in outdoor environments', *International journal of environmental research and public health, 17*(15), p.5611. [Online] Available at: https://www.mdpi.com/1660-4601/17/15/5611 (Accessed: 09 March 2024)

Luchs, A. and Fikus, M. (2013*) '*A comparative study on differently designed playgrounds'. *Journal of adventure education and outdoor learning*.

Martin, N., Milton, D.E.M., Krupa, J., Brett, S., Bulman, K., Callow, D., Copeland, F., Cunningham, L., Ellis, W., Harvey, T. and Moranska, M. (2019*)* 'The sensory school: working with teachers, parents and pupils to create good sensory conditions', *Advances in autism*, *5*(2), pp.131-140. [Online] Available at: https://kar.kent.ac.uk/73446/1/The%20Sensory%20School.pdf

Martin, N. and Milton, D. (2017) 'Supporting the inclusion of autistic children'*. In Supporting inclusive practice and ensuring opportunity is equal for all (*pp. 111-124). Routledge. [Online] Available at: https://kar.kent.ac.uk/62644/1/Supporting%20Inclusive_CH08.pdf (Accessed: 17 July 2024)

Middletown Centre of Autism (2017) *Research Bulletin Issue No. 24* September (2017). [Online] Available at: https://www.middletownautism.com/research/research-bulletins?page=2 (Accessed: 29/07/2024)

Middletown Centre of Autism (2024) [Online] Available at: https://www.middletownautism.com (Accessed: 23/07/2024)

Miller, L.J., Schoen, S.A., Camarata, S.M., McConkey, J., Kanics, I.M., Valdez, A. and Hampton, S. (2017) 'Play in natural environments: A pilot study quantifying the behaviour of children on playground equipment'*, Journal of Occupational Therapy, Schools, & Early Intervention*, 10(3), pp.213-231. [Online] Available at:

https://sensoryhealth.org/sites/default/files/publications/Play%20in%20natural%20environments%20A%20pilot%20study%20quantifying%20the%20behavior%20of%20children%20on%20playground%20equipment.pdf (Accessed: 02 March 2024)

Milton, D., Gurbuz, E., & López, B. (2022). 'The 'double empathy problem': Ten years on', *Autism,* 26(8), 1901-1903. [Online] Available at: https://doi.org/10.1177/13623613221129123 (Accessed 03 March 2024)

Mirfin-Veitch, B., Jalota N. and Schmidt L ((2020) *Responding to neurodiversity in the education context*: *An integrative literature review.* Donald Beasley Institute.

National Council for Special Education (NCSE) (2015) *Research Report No. 21: An evaluation of education provision for students with autism spectrum disorder in ireland* [Online] Available at: https://ncse.ie/wp-content/uploads/2016/07/5_NCSE-Education-Provision-ASD-Students-No21.pdf (Accessed 03 March 2024)

National Council for Special Education (NCSE) (2024) [Online] Available at: https://ncse.ie/ (Accessed 03 March 2024)

National Council for Curriculum and Assessment (NCCA) (2007) *Together towards Inclusion* [Online] Available at: *https://ncca.ie/media/2030/assessment_toolkit.pdf* (Accessed 29 August 2024)

National Council for Curriculum and Assessment (NCCA) (2023) *Primary Mathematics Curriculum* [Online] Available at: https://ncca.ie/en/primary/primary-developments/stem-education/primarymaths/ (Accessed 06 June 2024)

O'Keeffe, C. and McNally, S. (2020) 'The potential of play: to support the development of relationships among young children on the autism spectrum'. *Journal of early childhood studies, 13*(1), pp.137-148. [Online] Available at: https://omepireland.ie/wp-content/uploads/2020 August AN-LEANBH-OG-VOL13.pdf#page=137 (Accessed 03 March 2024)

Rowley, E., Chandler, S., Baird, G., Simonoff, E., Pickles, A., Loucas, T. and Charman, T. (2012) 'The experience of friendship, victimization and bullying in children with an autism spectrum disorder: Associations with child characteristics and school placement', *Research in autism spectrum disorders*, *6*(3), pp.1126-1134. [Online] Available at: https://www.academia.edu/download/45615951/The_experience_of_friendship_victimizati20160514-17606-1jua5aj.pdf (Accessed 06 March 2024)

Saunders, M., Lewis, P. and Thornhill, A. (2009) *Research methods for business students*. Pearson education. [Online] Available at: https://thuvienso.hoasen.edu.vn/bitstream/handle/123456789/3708/Contents.pdf?sequence=4&isAllowed=y
(Accessed: 27 March 2024)
Silverman, D. (2021) *Doing qualitative research*. 6th edn. SAGE Publications Ltd.

Smith, P. K., and Pellegrini, A. (2013) *Learning through Play. Encyclopedia on Early Childhood Development.*

Syriopoulou-Delli, C.K., Agaliotis, I. and Papaefstathiou, E. (2016) 'Social skills characteristics of students with autism spectrum disorder', *International journal of developmental disabilities*, 64(1), pp.35-44. [Online] Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8115498/ (Accessed; 14 March 2024)

Tatiani, G. and Irene, A. (2024) 'Bullying and Autism Spectrum Disorder: Correlating the Victimization of High-Functioning Autism Students with Educational Practices in the Context of Inclusion in Primary Education', *International Journal of Bullying Prevention*, pp.1-12.

Thiemann-Bourque, K., Johnson, L.K. and Brady, N.C. (2019) 'Similarities in functional play and differences in symbolic play of children with autism spectrum disorder', *American journal on intellectual and developmental disabilities*, *124*(1), pp.77-91. [Online] Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6748042/pdf/nihms-1048010.pdf (Accessed; 29 February 2024)

Thomas, C. (2004) 'How is disability understood? An examination of sociological approaches', *Disability & society*, *19*(6), pp.569-583. [Online] Available at: https://www.tandfonline.com/doi/abs/10.1080/0968759042000252506 (Accessed 19 February 2024)

UN (1959*) Declaration of the Rights of the Child*. [Online] Available at: http://www.un.org/cyberschoolbus/humanrights/resources/child.asp (Accessed:03 April 2024)

UN (1989) *Convention on the Rights of the Child.* [Online] Available at: https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child. (Accessed: 03 April 2024)

UNICEF (2018) *Learning through play: Strengthening learning through play in early childhood education programmes.* [Online] Available at: https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf (Accessed: 03 April 2024)

UNCRC (2013) *General comment No. 17 on the right of the child to rest, leisure, play, recreational activities, cultural life, and the arts (art. 3).* [Online] Available at: https://www.refworld.org/docid/51ef9bcc4.html (Accessed: 03 April 2024)

Whitebread, D., Coltman, P., Jameson, H. and Lander, R. (2009) 'Play, cognition and self-regulation: What exactly are children learning when they learn through play?', *Educational and child psychology, 26*(2), p.40. [Online] Available at: https://www.researchgate.net/profile/Britt-Tellgren/publication/329000546_'Don't_enter_-_It's_dangerous'_Negotiations_for_power_and_exclusion_in_pre-school_girls'_play_interactions/links/5d8cabafa6fdcc25549acf89/Dont-enter-Its-dangerous-Negotiations-for-power-and-exclusion-in-pre-school-girls-play-interactions.pdf#page=40 (Accessed: 03 March 2024)

Yavuz, H.M., Selçuk, B. and Korkmaz, B. (2019) 'Social competence in children with autism', *International journal of developmental disabilities*, *65*(1), pp.10-19. [Online] Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8115441/ (Accessed: 12 March 2024)

Young, L.J. (2019) *Perceptions of inclusion: a study of children with autism in the Primary School playground* (Doctoral dissertation, University of Southampton). [Online] Available at: https://eprints.soton.ac.uk/442043/1/LY_Thesis_Final_Word_with_amendments_NEW.pdf (Accessed: 18 August 2024)

Zablotsky, B., Bradshaw, C.P., Anderson, C.M. and Law, P. (2014*)* 'Risk factors for bullying among children with autism spectrum disorders*', Autism*, 18(4), pp.419-427. [Online] Available at: https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=7a07c6b7599498863f34377e6663073f5983d254 (Accessed: 24 February 2024)

Zosh, J.M., Hirsh-Pasek, K., Hopkins, E.J., Jensen, H., Liu, C., Neale, D., Solis, S.L. and Whitebread, D. (2018) 'Accessing the inaccessible: Redefining play as a spectrum', *Frontiers in psychology*, *9*, p.1124. [Online] Available at: https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01124/full (Accessed 02 March 2024)

Appendices

Appendix 1: Questions for semi-structured interview

ISSUE/ TOPIC	Guiding Questions	Possible follow up questions	Probes
Consent	Signing consent forms	Explanation	
Theme 1: **Current situation**	Do you think that all our autistic pupils (APs) enjoy the yard in the same way as other pupils?	Could you tell me more about that?	What have you noticed?
	Are you aware of APs who are having social, or friendship struggles in the yard?	Why do say that? How often have you often noticed that?	
Theme 2: **Physical layout**	Do you think the physical layout of the schoolyard impacts the participation of APs?	Could you tell me more about this / give me an example?	What have you noticed?
	How could the yard be modified in a cost-neutral way to support the inclusion of children with autism?	Could you explain that to me? What would the yard look like?	Why would that be beneficial?
Theme 3: **Teacher support**	Do some teachers/ SNAs currently facilitate the inclusion of APs in the yard?	How do they do that? Why do you think that they don't	Does it/ Would it make a difference?
	Are you aware of anything that we could improve to help APs feel more secure in the school yard?	Might that work for us? What purpose would that serve?	
	Are you aware of any evidence-based programmes or strategies that could be beneficial for promoting social skills or SCC in children with autism?	Why that strategy?	Where did you hear about it or learn about it?
	As a school, do we actively teach social communication competence skills?	Why do you think we don't? Can you give an example of SCC?	
Theme 4**: Peer support**	Can peers play a role in fostering inclusivity for APs during yard time?	Why do you think that?	
	Do you think that neurotypical pupils are aware of the difficulties of APs?	Have you seen times when neurotypical pupils helped or didn't help?	Are they just not aware? How did they help?
	As teachers, are there any peer-to-peer strategies that we could use to facilitate and encourage peer interactions for APs?	What information do you have about them? Have you seen	Might they suit our school yard?

		them in action? How could we implement them?	
	Is there a difference between inclusion in the senior yard and the junior yard.	Why do you think that?	

Thank you for your time.

Appendix 2: Online questionnaire on Google forms (including informed consent section for respondents)

Link to Questionnaire: [redacted]

ISSUE/ TOPIC		**Confidential – Informed Consent Form for questionnaires**	
Consent		I have read and understood the accompanying research information sheet for the study titled "Improving the inclusion of autistic pupils in the school yard" I have been given the opportunity to ask questions and have received satisfactory answers regarding the study procedures, potential risks and benefits, and data handling. I understand that my participation in this study is voluntary. I understand that all information collected during the study will be kept confidential. I give my consent for the researchers to collect and use my data for research purposes only. I understand that my personal information will not be disclosed or identifiable in any publications or reports resulting from this study. I acknowledge that all data collected will be stored securely and accessible only to the research team. Data will be retained after the project is completed for three years. I cannot access my own data or data from other respondents because it is collected anonymously. Data gathered will not be used for any other purpose other than this project and may be used to present at conferences or in academic papers. I understand the nature of the study, including the purpose, procedures, and potential risks and benefits. I have been given ample opportunity to ask questions and have	

		received satisfactory answers. By ticking this consent form, I confirm that I willingly agree to participate in the study,	I agree
Theme 1: Current situation	1.	Do you work with, teach, or supervise autistic pupils in the yard?	Yes No
	2.	Do you think our autistic pupils enjoy the yard in the same way as other pupils?	Always Most of the time Sometimes Never Other……..
	3.	Do our autistic pupils' have difficulties with social or friendship issues in the yard?	Always Most of the time Sometimes Never Other……
	4.	What difficulties have you noticed?	.....
Theme 2: Physical layout	5.	Which of these yard adaptations would enhance the experience of pupils with autism?	Buddy bench **(PHOTOS)** Quiet space Sensory area No need to change the yard. Other…….
Theme 3: Teacher support	6.	Are you confident in your understanding of autism to support an autistic pupil in the yard?	Very confident Somewhat confident Not confident. Other ……..
	7.	What training or continuing professional development in autism have you had?	None. Other…….
	8.	Please list any strategies that we could use to encourage peer interactions in the yard.	……
	9.	Which of these statements most reflect your thinking.	Inclusion should be a school wide initiative. The autistic pupil should learn to adapt to the yard. Inclusion should be a school wide initiative and autistic pupils should learn to adapt to the yard. Other……
Theme 4: Peer support	10.	Do you think that neurotypical pupils are aware of the difficulties of pupils with autism?	All neurotypical pupils are aware. Some neurotypical pupils are aware. Neurotypical pupils are unaware. Other ……

	11.	What role can peers play in fostering the inclusion of pupils with autism during yard time?	……
	12.	Do you think that this statement is true and why/why not? The inclusion of autistic pupils is different in the senior yard and the junior yard.	……
	13.	If you would like to explore this topic further in a 1-1 confidential, anonymized interview of approximately 30 minutes, please add your email below.	……

Appendix 3: Letter to the principal

Dear XXXXX,

As a teacher at XXXXXX, I am currently pursuing a Master of Arts in Inclusive and Special Education at Hibernia College. For my thesis, it is necessary for me to conduct a small-scale action research project focusing on autism.

To carry out this study, I would like to request your permission to access certain resources within the school. The research activities involved will include interviewing five staff members and administering a questionnaire to the teaching staff.

I assure you that all participants involved in the study will be treated with strict confidentiality and their identities will be protected. The information collected will be used solely for the purpose of this study and will be securely stored during the research process. No identifying information about the school, teachers, or students will be included in the thesis or any subsequent publications.

Confidentiality and anonymity are of utmost importance, and pseudonyms will be used to ensure the privacy of all participants. The collected data will be securely stored, accessible only to myself and my supervisor. Data analysis will be conducted for the purpose of completing the Master's thesis, and any potential findings may be shared in relevant academic journals.

Thank you for your interest and support in this research endeavour. If you have any concerns or further questions, please do not hesitate to contact me.

Yours sincerely,

Miriam Cotter

Appendix 4a: Research information sheet for staffroom

Title of Research Study: Improving the inclusion of autistic pupils in the school yard.

Thank you for your interest in participating in my research study on "Improving the inclusion of autistic pupils in the school yard".

This information sheet will provide you with essential details about the study to help you make an informed decision about participating. Carefully read the attached information and feel free to ask any questions before deciding. The project has been sanctioned by the principal.

Purpose of the study

The aim of the study is to improve the inclusion of autistic pupils in the schoolyard by sending a questionnaire out to all staff who supervise in the mainstream yard, leading to the identification of suitable inclusive strategies or adaptations to instigate change and to improve the yard experience of autistic pupils.

Risks and benefits

While participating in this study, there are minimal risks involved. However, due to your suggestions and thoughts, some potential benefits may include: the provision of an inclusive, welcoming yard for pupils with autism and/or the creation of a sensory-friendly space within the yard, social skills development for autistic pupils through a structured activity/ or evidenced based strategy may be introduced in the school and staff and peers may be encouraged and facilitated to learn about autism, and how to promote friendship and peer interaction for pupils with autism.

Confidentiality and Data Handling

Your participation in this study will be strictly confidential. All data collected will be anonymised and stored securely, accessible only to the researcher. Data will be used for research purposes only. Your personal information will not be disclosed or identifiable in any publications or reports resulting from this study.

Voluntary Participation and Withdrawal

Participation in this study is entirely voluntary.

Contact Information

If you have any questions, concerns, or would like further information about the study, please contact:

Miriam Cotter
Student of Masters (Arts) Inclusion and Special Education (MAISE)
[redacted]

Supervisor
Dr Alison Doyle
ICEP Europe on behalf of Hibernia College
[redacted]

By participating in this study, you acknowledge that you have read and understood this information sheet. If you decide to participate, you will be asked to sign a consent form before starting the study.

Thank you for considering being a part of this important research. Your contribution will help to progress the inclusion of autistic pupils in the yard.

Appendix 4b: Project information letter (emailed) for questionnaire respondents

Improving the inclusion of autistic pupils in the school yard.

We are writing to let you know about an opportunity to participate in a research study about improving the inclusion of autistic pupils in the school yard.

Who is doing this study?

This study is being conducted by Miriam Cotter, a teacher in the school who is completing a Master's programme in Hibernia College.

Who is this study for?

This study invites current staff members with at least three years of teaching or three years of supporting autistic pupils in the classroom and who participate in regular supervision of the mainstream yard.

Why?

I want to find out how the school yard environment could be improved to ensure the full inclusion of autistic students.

What do you want me to do?

- I am inviting you to complete a 10-15-minute online survey about your observations on the experiences of autistic students in the school yard.
- You may also be invited to a short individual interview about your observations and viewpoints.

Will my responses be anonymous?

I will not share any private information about any respondents. Responses are anonymous i.e. I do not ask you to identify yourself by name in the questionnaire unless you wish to participate in an individual interview, and I am not collecting computer IP addresses.

Where can I find out more?

You can find out more about this study by reading the information leaflet attached to this email. You can also contact me by email at [redacted]

How can I take part?

If you are interested in participating in the study, please read the information leaflet and [redacted]

Thank you for taking the time to read this invitation, we very much hope that you decide to participate in the survey.

Sincerely,

Miriam Cotter

Appendix 5: Research information sheet for interview participants

Title of Research Study: Improving the inclusion of autistic pupils in the school yard.

Thank you for your interest in participating in my research study on "Improving the inclusion of autistic pupils in the school yard".

This information sheet will provide you with essential details about the study to help you make an informed decision about participating. Carefully read the attached information and feel free to ask any questions before deciding. The project has been sanctioned by the principal.

Purpose of the study

The aim of the study is to improve the inclusion of autistic pupils in the schoolyard by interviewing some staff members, using thematic data analysis, leading to the identification of suitable inclusive strategies or adaptations to instigate change and to improve the yard experience of autistic pupils.

Study procedures.

If you choose to participate, the study will involve the following procedures:

Prior to an interview, I shall ask you to sign a consent form and outline to you that your consent may be withdrawn at any time. I plan to interview you for approximately thirty minutes about your experience of the inclusion of pupils with autism in the mainstream school yard. I shall ask you about the current state of inclusion in the yard and encourage you to suggest ways that you feel that the inclusion of autistic pupils could be enhanced. I will use a voice recorder to record the interview.

Risks and benefits

While participating in this study, there are minimal risks involved. However, due to your suggestions and thoughts, some potential benefits may include: the provision of an inclusive, welcoming yard for pupils with autism and/or the creation of a sensory-friendly space within the yard, social skills development for autistic pupils through a structured activity/ or evidenced based strategy may be introduced in the school and staff and peers may be encouraged and facilitated to learn about autism, and how to promote friendship and peer interaction for pupils with autism.

Confidentiality and Data Handling

Your participation in this study will be strictly confidential. All data collected will be anonymised and stored securely, accessible only to the researcher. Data will be used for research purposes only. Your personal information will not be disclosed or identifiable in any publications or reports resulting from this study.

Voluntary Participation and Withdrawal

Participation in this study is entirely voluntary, and you have the right to withdraw from this research at any time without needing to provide a reason. Deciding to participate or withdraw will not have implications for any current or future relationships with the researchers or Hibernia.

Contact Information

If you have any questions, concerns, or would like further information about the study, please contact:

Miriam Cotter
Student of Masters (Arts) Inclusion and Special Education (MAISE)
[redacted]

Supervisor
Dr Alison Doyle
ICEP Europe on behalf of Hibernia College
[redacted]

By participating in this study, you acknowledge that you have read and understood this information sheet. If you decide to participate, you will be asked to sign a consent form before starting the study.

Thank you for considering being a part of this important research. Your contribution will *(insert information on how the participant's contribution will help the research study).*

[Date]

Appendix 6: Consent form for interview participants

Title of Research Study: Improving the inclusion of autistic pupils in the school yard.

I have read and understood the accompanying research information sheet for the study titled "Improving the inclusion of autistic pupils in the school yard" I have had the opportunity to ask questions and have received satisfactory answers regarding the study procedures, potential risks and benefits, and data handling.

I understand that my participation in this study is voluntary. I have been informed that I have the right to withdraw from the research at any time without needing to provide a reason. I understand that my decision to participate or withdraw my data during the data collection phase and up to 1 month after data collection will not have any negative consequences for my current or future relationships with the researchers or the educational institution.

I understand that all information collected during the study will be kept confidential. I give my consent for the researchers to collect and use my data for research purposes only. I understand that my personal information will not be disclosed or identifiable in any publications or reports resulting from this study. I acknowledge that all data collected will be stored securely and accessible only to the research team.

I understand the nature of the study, including the purpose, procedures, and potential risks and benefits. I have been given ample opportunity to ask questions and have received satisfactory answers. By signing this consent form, I confirm that I willingly agree to participate in the study,

Participant's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____